FEEDSTUFFS

The Weekly Newspaper for the Feed Industry

Volume 33—Number 29 | JULY 22, 1961 | 1 Year $5, 2 Years $8

July 1 Cattle On Feed 2% Over Year Ago

WASHINGTON — The number of cattle and calves on feed for market in the 26 major feeding states July 1 represents a gain of 2% from a year earlier, the U.S. Department of Agriculture reported this week. But the July 1, 1961, count of 5,752,000 head was down seasonally from the 7,015,000 head on feed April 1 this year. USDA said the April 1 to July 1 decline in total numbers on feed was 18% this year, compared with 15% last year.

Most of the increases in cattle feeding from a year earlier occurred in the north central states.

North Central States 3% Higher: Cattle and calves on feed in the north central states July 1 at 3,897,000 head were 3% above the 3,767,000 head July 1 last year.

Western States Decline 3%: On July 1 of this year there were 1,574,000 head of cattle and calves on feed in the 11 western states compared

(Turn to CATTLE, page 8)

Feed Trade Adopts Wait-and-See Attitude on Rail Rate Cuts

By Special Correspondent

ATLANTA — A wait-and-see attitude is being adopted by the feed industry regarding reduced rail freight rates on grains from midwestern markets to Southeastern poultry centers, but many feed men say the reduced rates could bring some mighty important changes to the industry in Dixie.

There are reports that at least two other major railroads are giving consideration to putting into effect new rates like those announced by the Southern Railway System and subsequently met by the Louisville & Nashville Railroad. Southern's rates from its gateways in the Midwest are scheduled to go into effect Aug. 15. L&N's take effect Aug. 20.

If the rates do go into effect and are made permanent, and if competing carriers do not meet or undercut the railroads, then look for some significant changes in the feed business. This is the universal opinion of brokers, poultrymen and feed men.

The poultry business in the Southeast could very well be revolutionized if—and this is a mighty big "if"—the rates do become effective. It could very well mean the relocation of some mills.

Midwestern grain, brokers say, can

(Turn to RAIL RATES, page 93)

Calls for 'First-Hand Representation' of Eggs Produced in Midwest

By FRED E. TUNKS
Feedstuffs Staff

MINNEAPOLIS—"First-hand representation" in the market place is urgently needed by the egg industry of the Midwest to break down the "greatest barrier" to its competitive position, Prof. Leonard Eggleton, Iowa State University poultry marketing specialist, declared here this week at the American Poultry Congress & Exposition.

He said this "greatest barrier" is built of "second-hand stories which are being told about our egg quality and the lack of representation in the market place."

The midwestern egg industry, he

(Turn to EGGS, page 97)

4,740 REGISTER FOR POULTRY MEETING

MINNEAPOLIS—Registration for the American Poultry Congress and Exposition, held July 18-20 at the Municipal Auditorium in Minneapolis, hit a new high for recent years. The total registration for the event sponsored by the American Poultry & Hatchery Federation was reported at 4,740.

Poultrymen, feed men and others from throughout the country were on hand for meetings and extensive exhibits of supplies and equipment.

The National Egg Council and other related groups meeting at the same time as the congress were said to have drawn larger than expected crowds.

Voices Confidence In Upper Midwest Broiler Industry

By ROGER BERGLUND
Feedstuffs Managing Editor

MINNEAPOLIS—Will broiler production in the Upper Midwest continue to grow, and can the industry in the North compete with that in the South? A veteran poultry processor in Minnesota says he "looks to the future of the broiler industry in this area with a great deal of confidence, provided, of course, that we exercise proper restraint with reference to expansion and pursue an orderly marketing program."

Speaking at the American Poultry Congress in Minneapolis, Emil Johnson, manager of the St. Cloud (Minn.) Poultry & Egg Co. (division of Armour & Co.), said that costs of broilers produced and marketed in the Upper Midwest can compare favorably with birds from the South and that a premium price can be obtained. He pre-

(Turn to BROILERS, page 96)

PRODUCTION SCHOOL TO LIMIT ENROLLMENT

KANSAS CITY—Enrollment at the 1961 Feed Production School will be limited to 600, school officials have announced.

Eric Carlson, Ralston Purina Co., chairman of the school committee, said that because of the detailed and extensive program and because of smaller group sessions which are planned, it will be necessary to limit enrollment to the first 600 who send in registrations.

Because of the program of basic information and the availability of the new Handbook of Feed Production to enrollees, interest in the school is increasing, Mr. Carlson said, urging feed men who plan to attend to send in their registrations soon.

The school will be held Sept. 11-13 at the Continental Hotel in Kansas City.

Committees Complete Farm Bill Action

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON—Agriculture committees of both chambers of Congress have completed action on the omnibus farm bill, and in major respects it somewhat resembles the "one horse shay" prior to its ultimate falling apart.

However, it must be noted that the bill represents a significant victory for USDA economic advisor Willard Cochrane, whose proposals on feed grain and wheat legislation have received congressional committee approval.

On most other titles of the omnibus bill, Congress performed some drastic surgery. Observers say that the action has left the Freeman political venture adrift without a rudder.

A lesson for the Secretary of Agriculture may be that the Cochrane

(Turn to COMMITTEES, page 7)

Pillsbury Sales, Earnings Increase

MINNEAPOLIS — The Pillsbury Co. this week announced a year of record sales. Earnings for the year ended May 31, 1961, increased 20.8% over the previous fiscal year.

Earnings for the year were $7,911,265, up $1,370,171 over the preceding year. Earnings per share equalled $3.64, compared to $3.04 last year.

(Turn to PILLSBURY, page 97)

Broiler Council Names Officers, Sets Conference

HOT SPRINGS, ARK.—Joe Frank Sanderson of Laurel, Miss., was reelected president of the National Broiler Council at a meeting of the NBC board held here July 17.

Harold Snyder of Dardanelle, Ark. was elected vice president; Lafayette Wrenn of Siler City, N.C., secretary-treasurer, and Frank Frazier was reelected executive vice president.

(Turn to NBC, page 8)

Broiler Money Costs Stressed

By ROBERT H. BROWN
Feedstuffs Special Correspondent

WEST END, GRAND BAHAMA ISLAND—Financing in these days of depressed market prices for broilers calls for a careful surveillance of the cost of money, Georgia Feed Assn. members were cautioned during the group's annual convention this week on the sunny shores of the Bahama Islands.

A strong financial position is essential for a better chance of survival and there should be a more sophisticated and better-informed understanding of the cost of money, W. D. Nusbaum, treasurer of Ralston Purina Co., told members.

The question of financing is a very real and immediate one and overshadows all other problems of nutrition, management, practices, pricing and the rest, he said.

(Turn to GEORGIA, page 98)

Broilers Slip Another Notch

More of a modest recovery in broiler prices since record lows were set about June 1 was lost this week as the market dipped a penny.

The U.S. Department of Agriculture and other market sources reported that paying prices in the southern growing area declines 1¢ early in the July 13-19 period to mostly 11¢

(Turn to PRICES, page 93)

FEEDSTUFFS *Features This Week*

EQUIPMENT—Story on **page 18** tells about Wisconsin firm that made good use of old machinery when modernizing its plant.

VACCINATION—A feed company research report on coccidiosis vaccination of replacement birds appears on **page 26.**

ENZYMES—A discussion of enzymes in barley rations for poultry starts on **page 42.**

DAIRY NUTRITION—Many significant points concerning dairy cow nutrition are noted in an article starting on **page 70.**

INDUSTRY TRENDS—A review of economic research in the areas of feed industry developments and trends appears on **page 80.**

—REGULAR FEATURES—

Names in the News	10	Putting Research to Work	64
Feed Control Comment	24	Worth Looking Into	78
Convention Calendar	34	Up or Down	88
Joe Brooks	38	Feed Markets in Detail	94

FEEDSTUFFS®

The Weekly Newspaper for the Feed Industry

Published by THE MILLER PUBLISHING CO.

2501 Wayzata Blvd., Minneapolis, Minn.

Address Mail to: Box 67, Minneapolis 40, Minn.

Telephone FRanklin 4-5200 - All Offices Serviced by Bell System Teletype

EDITORIAL STAFF—George L. Gates, Editor; Roger Bergland, Managing Editor; Fred E. Tunks, News Editor; John Cipperly, Washington Correspondent; Emmet J. Hoffman, Merchandising Editor; James K. Rutter, Russell Tokheim and Paul B. Crockett, Editorial Assistants.

WASHINGTON CORRESPONDENT—John Cipperly, 604 Hibbs Building, Washington, D. C., Telephone, Republic 7-8534.

ADVERTISING STAFF—Wilfred E. Lingren, Advertising Director; Carl R. Vetter, Advertising Department Manager; Bruce A. Kirkpatrick, Advertising Production Manager; Leland C. Hubert, Assistant Advertising Production Manager; R. Dale Swenson, Promotion Manager.

BUSINESS STAFF—Milton B. Kihlstrum, President; Wilfred E. Lingren, Executive Vice President; Don E. Rogers, Vice President; Paul L. Dittemore, Vice President; Donald G. Neth, Secretary; Norman Couper, Treasurer; James G. Pattridge, Assistant Treasurer; James S. Barden, Marketing and Research Director; Harry M. Dunn, Jr., Circulation Fulfillment Manager; Richard L. Ostlund, Office Manager; Walter O. Buchkosky, Production Superintendent.

ADVERTISING REPRESENTATIVES—SOUTHWEST, Martin E. Newell, Manager; Thomas E. Letch, Assistant Manager, 612 Board of Trade Bldg., 1005 Wyandotte St., Kansas City 5, Mo. (Tel. Victor 2-1350); EASTERN STATES, Paul L. Dittemore, Manager; James W. Miller and Archy S. Booker, Jr., Room 1101, 52 Vanderbilt Ave., New York 17, N. Y. (Tel. Oregon 9-2400); CENTRAL STATES, Don E. Rogers, Manager; Robert M. Harrison and Amos W. Standish, 2832 Board of Trade Bldg., 141 W. Jackson Blvd., Chicago 4, Ill. (Tel. Harrison 7-0515); NORTHWEST, Paul A. Anderson and Wayne M. Soule, P. O. Box 67, Minneapolis 40, Minn. (Tel. Franklin 4-5200); WESTERN STATES, The Maurice A. Kimball Co., Inc., 2550 Beverly Blvd., Los Angeles 57, Cal. (Tel. Dunkirk 8-6178); The Maurice A. Kimball Co., Inc., 681 Market St., San Francisco 5, Cal. (Tel. Exbrook 2-3365).

Correspondence regarding subscriptions, changes of address, etc., should be sent to Circulation Manager, Feedstuffs, Box 67, Minneapolis 40, Minn. Single copies 50¢. Subscription rates: One year $8, two years $15, in the U.S., U.S. possessions, Canada and Pan-America. Add $2 a year for postage to other countries. Readers are urged to give prompt notice of change of address and to anticipate future changes by at least three weeks' advance notice. Ask postman for form 22-S. Feedstuffs accepts subscriptions only through its own offices; no subscription solicitors are employed or recognized. Associated publications: The Northwestern Miller, Croplife, Farm Store Merchandising, Feedlot and Professional Nursing Home. Second-class postage paid at Minneapolis, Minn.

ABC AUDITED PAID CIRCULATION

NEP

The regional circulation of this issue is concentrated in the southeastern states

Top of the Hopper

THE DAILY REPORTS OF LOWER and lower broiler prices didn't add much to the morale of poultry people attending the American Poultry Congress and Exposition in Minneapolis this week. The subject was a constant conversation topic, and the consensus, of course, was that some terrific losses will be sustained this summer if something doesn't happen quickly.

Some people very close to the industry believe that the shakeout—in terms of failures, mergers—will be the "biggest yet." This view contrasts considerably with some comments passed on in this column a week ago, and we're not willing to gamble on the outcome yet. Some independent operators, we are told, feel that feed companies will wind up with broader ownership of production facilities, both growing and processing. This could happen, but it's likely that in many cases the feed people probably didn't have that in mind to start with.

Why are broilers in trouble? Practically everyone will give the same answer: Too much unsound financing. And there's an answer that hasn't changed much with the changes in the price of chicken through the years.

INCLUSION OF TURKEYS in the revamped farm bill's list of commodities which could come under federal marketing orders if the law is passed is not welcomed by some turkey people. One gentleman commented that this sort of a deal would make the turkey industry the "fall guys," since no similar regulations would be in force for competitive meats. Should turkey production be restricted, chicken, beef and pork could gain a broader share of the market.

Meanwhile, officials of the National Turkey Federation say the organization hasn't decided what position to take on the measure. It had previously sponsored some enabling legislation for marketing authority, but NTF officials now plan to study the language of the present bill to determine whether it will provide the machinery the association hoped to obtain through the bill it sponsored.

BIG CHANGES THAT HAVE TAKEN PLACE in financing needs of Illinois farmers are reported by Dr. C. B. Baker of the University of Illinois. "For all types of farms there has been a vast substitution of capital assets and machine methods for labor, and also, relatively speaking, for land," he writes in Illinois Agricultural Economics. "As a result, the total assets on Illinois farms as well as their structure have changed. To a remarkable degree much of the change has been financed by farmers from currently earned income. However, it is apparent that much of the increase in the equity of farmers is due to inflation over the major portion of the period and to the off-farm migration which has left assets behind in the hands of the financially able."

Dr. Baker's study shows that between 1937-41 and 1958-59 total capital assets of the typical hog-dairy farm in west-central Illinois increased from $15,000 to $49,840—an increase of 228%. The increase was even higher for hog-beef farms (245%) and for cash grain farms (262%). While inflation accounts for much of the increase, assets of all types of farms increased more than 50% in "real" terms.

OF PARTICULAR SIGNIFICANCE is Dr. Baker's analysis of changes in cash requirements in the period. The requirements of hog-beef fattening farms jumped from $3,222 per year to $14,937 in 1958-59. The change for hog-dairy farms was from $1,986 to $6,574, and for cash grain farms, from $2,118 to $5,556. Requirements for capital assets, of course, also jumped

(Turn to TOP OF THE HOPPER, page 93)

How's Business?

AN EVERY WEEK REVIEW OF FORMULA FEED BUSINESS VOLUME, INCLUDING PRICE, SUPPLY AND DEMAND TRENDS

Feed business volume continues at its high level this week. Most sections of the country indicate that volume is still on the high plateau of previous reporting periods. However, there was some faltering in the demand in the Central States this week, according to a report from that region.

Feed men in the Northeast are beginning to doubt whether they can maintain the high level of business they are now experiencing. They anticipate a summer slack-off soon, the regional report says.

Turkey and broiler feeds account for large portions of the business being done. Hog feeds are doing well in the Corn Belt and Southwest. Some cattle feed business has been developing in the Northwest due to the drouth conditions in some parts of that region.

Broiler prices are reported to have dipped to as low as 10½¢ lb. in the Southeast after an earlier partial price recovery.

The wholesale feedstuff price index advanced 0.3 point to 83.3 this week as against 73.1 the same week a year earlier. The feed-grain index dropped 0.2 point and at 65.9 compares with 67.0 for the same week a year ago.

The hog-corn ratio, based on Chicago prices, was 15.8 this week compared with 15.7 a week earlier and 14.4 a year earlier. (Major feed market roundup and ingredient quotations appear on pages 94-96.)

Northwest

A polling of feed manufacturers in the Northwest indicates that business continues at about the same high level or a little higher. Turkey, broiler and hog feeds account for most of the high volume of mills in the area.

Several feed men indicated that their firms had experienced spurts in cattle feed orders. These orders were attributed to the drouth conditions in some parts of the Northwest region.

Prices are expected to be mostly steady to about $1 higher. The hike in prices was attributed to a rise in the price of soybeans late in the week.

Southwest

Formula feed business in the Southwest continues at a very satisfactory pace and July should end up well ahead of the same period of a year ago. Most mills are getting a full five day week although some sources reported that this week's volume would be off slightly.

Some broiler feed operations expressed some pessimism in this line. Broiler prices are still well under cost of production basis and, while there have been some cutbacks in placements, it is felt that there will be some substantial reductions in the next few months.

Turkey feed sales are close to their expected peak and turkey and hog feeds are still providing the big share of the total volume.

Prices of formula feeds will be a little higher due to slightly higher protein meals and stronger millfeeds and grains.

Northeast

Formula feed sales continued at a good clip and although running time wasn't increased, in most instances it was a well-packed 40 hours. The trade expects the tempo to continue next week, but some doubt that the pace will hold up much longer. For certain mixers the recent activity meant a 25% increase in output from not-too-long-ago levels.

Mixers still are sending out a lot of pasture dairy feed and some mixed feed, but the latter has fallen off quite a bit. In the New England area dairy business is down; pastures are good because of frequent rains and cool weather.

Egg mashes were well taken in all areas. Growing feeds are coming into their own, and turkey feed volume was good.

Egg prices were steady, but in the New England area they edged up 1¢ doz. on top of the recent 10¢ increase under the influence of an influx of vacationers.

Broiler prices backed down in all areas. One spokesman said he doesn't know how some growers hold on at below cost of production prices.

Another spokesman said the corn crop in the western New York area hasn't a "ghost of a chance" of maturing. This, coupled with a late planted oats crop and a sharp drop in acreage, points to a good feed year for the mixers. The question, however, is whether consumers will use more complete feeds, or pool their resources and buy carloads of grain to mix with their feed.

Another factor that western New York farmers have to contend with is that although the hay crop was good they had difficulty putting it under cover because of frequent rains and some of it was worn out while being cured.

Running time of formula feed manufacturers in the Northeast averaged 40 hours, with some of the smaller mixers putting in 36 hours.

Southeast

Formula feed business in the Southeast continues to be reported as being about unchanged, ranging from being on the slow side to being very good.

Broiler prices are still on the downward trend with sales being made this week at 11¢ to 12½¢, mostly at 11¢, f.o.b. the farms, with very little improvement in sight in the near future. However, many are cutting back on chick replacements but there are still great numbers to be processed during the next two or three weeks. Good rains in most of the southeastern states have brought out pastures to excellent condition and corn has shown a marked improvement.

Delmarva

Feed men in Delmarva are saying they don't expect a recovery in broiler prices until at least the first of the year and some are talking of eliminating broiler contracts and returning to the old 75-25% split on profits. At least one feed firm in this region has instituted a plan which affects the grower as much as it does the contractor in periods of low prices.

Broiler contractors who do not manufacture their own feeds are reported to be cutting back on placements. Despite the unhealthful broiler situation, it appears the feed manufacturer must continue to operate his mill at a good rate because of his overhead and to keep his customers.

Broiler feed ingredient costs rose slightly over $1 ton last week, with the average price for 20% feed go-

(Turn to MARKETS, page 99)

Look for the answer first from Peter Hand Research

MEET YOUR 9 FEED SPECIALISTS AT PETER HAND!

Wiley Akins—Vice Pres. and Gen. Mgr.— Was pres. of two important feed mfg. assns. 25 years' management experience in the feed industry.

Dr. R. A. Rasmussen—V.P., Research Director, Animal Div.—Served on faculty of 3 universities. Degrees in biochemistry and nutrition.

Dr. Myron W. Pasvogel—V. P., Dir. Research, Poultry Div.—Exper. in poultry, feed industries. Former Dir. Poultry Science Dept., U. of Ariz.

John R. Linsner—Dir. Tech. Services—Grad. U. of Ill. College of Agriculture. More than 12 years' exper. in all phases of feed formulation.

Richard W. Kerley—Coordinator of Sales, Production and Procurement. Degree in general agriculture. 12 years' experience in the feed industry.

Gerald J. Anderson—Tech. Services—M. S. degree in poultry nutrition. Was research technician at U. of Idaho and nutritionist in feed industry.

Dr. Heino Naelapaa—Coord. Spec. and Prod.—Was dir. of res. and nutr. in U.S. firms and abroad. Ph.D. nutr. and physiology, Bonn U., Germany.

Richard W. Kelley—Tech. Services—Was research asst. at U. of Mo. and at Kansas State. Master's degree in animal nutr., U. of Missouri.

Problem solving session—A Peter Hand customer (right) meets with Dr. Rasmussen for evaluation of his formulas and to discuss a palatability problem. Standing by is Harry White, Peter Hand Sales Mgr., with more than 20 years' experience in the feed and pharmaceutical fields.

They help solve your feed problems at no additional cost!

No other supplier of vitamin premixes offers you the services of a more highly-qualified staff of feed experts than does Peter Hand. Whether you are a large or small manufacturer, they will be happy to work with you or your nutritionists on all types of feed problems.

HERE ARE SOME SERVICES WE OFFER USERS OF OUR VITAMIN PREMIXES:

- **Provide, evaluate and consult on formulas for all kinds of feeds.**
- **Suggest most practical choice of ingredients based on nutritive value, relative cost and availability.**
- **IBM computor serv. on feed formulas.**
- **Provide microscopy service.**
- **Help solve pelleting and palatability problems.**
- **Carefully laboratory check the quality of ingredients in feed formulas and aid in the development of new feed products.**
- **Report results on performance of formulas and new feed additives gained under practical conditions at our research farm.**
- **Advise on state and federal regulations, assist on marketing problems.**

PETER HAND "RED TAPE" SAVES YOU TIME, TROUBLE AND MONEY Peter Hand assays every ingredient used in every premix. After samples are taken, containers are sealed with a distinctive red tape. This red tape cannot be removed until the assay verifies quality.

Please send me information on Peter Hand premixes, vitamins and valuable services to feed manufacturers.

Name_____ Title_____

Company_____

Address_____

City_____ Zone____ State_____

PETER HAND FOUNDATION

1000 North Avenue, Chicago 22, Illinois

130 Howell Street, Dallas 7, Texas

Georgia Dealer Group Favors Broiler Controls

By Special Correspondent

GAINESVILLE, GA.—The Georgia Feed Dealers Assn. has gone on record as favoring control of broiler production and also expressed concern to Washington over overproduction "caused by unbridled expansion of certain national feed mills."

In a letter to the Georgia delegation in Congress, the association asked the Congressmen to explore the possibility of "monopolistic action on the part of these giant companies."

The association deplored "unecomomic expansion" brought about by expansion efforts by big mills.

The request for passage of controlled production and marketing was passed by the association by a vote of 37 to 14. The proposal read:

"Whenever during any calendar year the Secretary of Agriculture determines that the total supply of broilers being produced will exceed the normal demand for such year, he shall proclaim such fact and a national production quota shall be in effect for the production and marketing of broilers. We recommend that said quota shall be based upon the production of four broilers per year from each square foot of broiler house in use in 1961."

Further, the proposal stipulated that state production and marketing quotas shall be apportioned to the counties of each state by a state committee on the basis of total number of broilers produced and marketed by each county during 1961.

The dealers proposed that the secretary conduct a referendum of those engaged in the production of broilers to determine if they are in favor of the quota granted.

The proposal was drafted by a committee appointed at a previous meeting. It consisted of Larry Wolf, Lewis Foster, Herman Pierce of Gainesville and H. R. Bramlett of Cumming.

June Heavy Poult Hatch 20% Over '60

WASHINGTON—The U.S. Department of Agriculture reports that the hatch of heavy breed poults was 20% greater in June, 1961, than in June, 1960—13,746,000 compared with 11,491,000.

Last month's heavy breed hatch advanced the total for the first six months of this year to 85,598,000, a gain of 25% over the 68,217,000 total for the same period last year.

USDA reported that the hatch of heavy white breeds amounted to 4,675,000 in June, 39% greater than a year earlier. For other heavy breeds, mostly Broad Breasted Bronze, the increase was 12%, from 8,116,000 to 9,071,000.

The June hatch of light breed poults showed an advance of 11%, from 1,701,000 to 1,889,000.

Since the first of the year, turkey hatcheries have produced 93,776,000 poults of all breeds, up 25% from comparable output in 1960. The cumulative output of heavy white breeds at the end of June was 24,381,000, up 52%; other heavy breeds, 61,217,000, up 17%; light breeds, 8,178,000, up 19%.

Turkey eggs in incubators July 1 indicate that the hatch of heavy breed poults this month is likely to be about 20% greater than a year earlier and that the July hatch of light breed poults may be about 8% above the same month last year.

10 Mills, 3 Hatcheries Sell Nearly 90% Of Delmarva Broilers

By Special Correspondent

SALISBURY, MD.—Ten feed mills and three hatcheries practically control the Delmarva poultry industry, according to a Small Business Administration report.

About 87% of the live broilers sold in the Delaware-Maryland-Virginia peninsula area are marketed by these 13 largest sellers. The study was made by Washington College, Chestertown, Md., at the request of SBA.

The research summary said that the desire of feed companies to maintain markets for their output is a major reason for their prominence in the broiler grower industry.

Few independent farmers or growers own and market their own flocks. Most of the birds are owned by feed dealers who contract with owners of broiler houses. The house owners only have the house and labor involved. The feed dealer contractors finance the feed, fuel, chick cost, medication, and other expenses.

Because of the many processes involved in the industry, it has become increasingly necessary to combine two or more processes under one roof, the summary said. Often the feed dealer will own a hatchery, the hatching egg flocks, slaughtering, processing, and marketing divisions.

Vertical integration, as this is called, is a "natural move for a well-financed firm when it finds impediments or imbalances in the flow of goods through the successive stages of production," the report said.

The farmers' loss of independence is cited as one of the disadvantages of vertical integration.

Ray Ewing Co. Honors Retiring Jack Plonsky

PASADENA, CAL.—Employees of the Ray Ewing Co. headquarters in Pasadena recently held a surprise Aloha party for Jack Plonsky, retiring executive vice president.

Ray Ewing, founder and president of the vitamin supplement firm, recounted the history of the firm's growth and expansion, and credited Mr. Plonsky with much of the success achieved. Among the Aloha gifts to Mr. and Mrs. Plonsky was an all-expense extended holiday by jet plane to the Hawaiian Islands.

Mr. Plonsky joined the Ray Ewing Co. in 1946 when the firm was in its second year of existence. Since that time, the company has grown from four employees to nearly a hundred, and the one small mixing operation in Pasadena has expanded to national distribution and service, with major plants in California, Texas, Iowa and Pennsylvania.

RETIRING EXECUTIVE HONORED—Jack Plonsky, retiring executive vice president of The Ray Ewing Co., was honored recently by employees at the firm's Pasadena, Cal., headquarters. Among gifts presented to Mr. and Mrs. Plonsky was an all-expense paid trip to the Hawaiian Islands.

AFMA CONVENTION COMMITTEE—The 54th annual convention program of American Feed Manufacturers Assn., May 10-12, 1962, will be dedicated to the nation's Land-Grant College System, which will celebrate its centennial starting this fall. The AFMA committee planning the convention met in Chicago recently to outline details of the program and to select the nation's top industrial and college leaders who will be invited to appear on the program. Seated, left to right, are: Dr. W. Lyle Fitzgerald. the Quaker Oats Co., chairman; Oakley Ray, AFMA; Dr. A. Allen Heidebrecht, Paymaster Feeds; Dr. W. W. Cravens, Central Soya, and J. D. Sykes, Ralston Purina Co. Standing, left to right, are: Dick Kathe, AFMA; W. E. Glennon, AFMA; Ted Harstad, Doughboy Industries; Dr. Walter A. Glista, Wirthmore Feeds, and W. T. Diamond, AFMA.

Dr. V. John Brensike Of USDA Dies at 44

MADISON, WIS. — Dr. V. John Brensike, 44, U.S. Department of Agriculture economist who specialized in feed industry economic research, died unexpectedly of a heart attack July 16 while visiting here.

Dr. Brensike, who was located in Washington, was visiting in Madison, his home community, at the time of his death. He was accompanied by his wife and son and two daughters. Funeral services were held in Madison this week.

Dr. Brensike, who received his Ph. D. degree from the University of Wisconsin, had been with USDA for some time. He was head of the grain and feed section of the Economic Research Service of USDA's Marketing Economics Division. For several years, he supervised economic research on various aspects of feed manufacturing and distribution. (An article prepared prior to his death appears on page 82 of this issue of Feedstuffs.)

Because of his activity on the Feed Production School committee and his appearances on school programs, Dr. Brensike was particularly well known to feed men who attended and took part in Production Schools. He supervised a number of research projects conducted in cooperation with the school. Lloyd Larson, president of Feed Production School, Inc., said that a memorial to Dr. Brensike would be set up and that persons wishing to make contributions may send them to the school at 20 W. 9th St. Bldg., Kansas City 5, Mo.

Delmarva Makes 5% Cut in Placements

SALISBURY, MD.—Delmarva cut back broiler activity sharply last week. Growers started 3,794,000 chicks during the week ending July 15. This was 5% below the previous week, and 8% below the corresponding week of last year.

Broiler prices did strengthen slightly in Delmarva last week, going at 14.01¢, compared to 13.99¢ the week before.

According to the Maryland-Delaware Crop Reporting Service, the national broiler activity last week was running about 10% ahead of 1960. Hatcherymen in the 22 important broiler states set 51,332,000 eggs. This was 1% below the previous week, but 10% above the corresponding week a year ago.

Placements in the 22 states totaled 39,291,000 broiler chicks—up slightly from the previous week, and 9% above the corresponding week a year ago.

Epidemic Tremor Vaccine Developed

MINNEAPOLIS—Development of a vaccine for fighting chicken epidemic tremor (avian encephalomyelitis) was reported here July 19 at the American Poultry Congress & Exposition in the Municipal Auditorium.

Speakers on the subject during a hatchery disease control clinic were Dr. John R. E. Taylor, veterinary pathology department, DeKalb (Ill.) Agricultural Assn., and Dr. O. H. Peterson, vice president in charge of research, Dr. Salsbury's Laboratories, Charles City, Iowa.

Dr. Salsbury's announced simultaneously from Charles City that it will soon apply for a license to produce the vaccine (see story on page 6.) Responding to questions from the clinic audience, Dr. Peterson said availability of the vaccine was not definite because of pending approval by Agricultural Research Service. However, he indicated that there is a possibility that the vaccine will be available yet this year. Its development represents the culmination of several years of research.

A report on dipping hatching eggs to control PPLO was presented by Dr. P. P. Levine, poultry pathologist, Cornell University, Ithaca, N.Y. His report paralleled information outlined by Dr. Tevis M. Goldhaft, Vineland (N.J.) Poultry Laboratories, at the recent Western Poultry Congress in Sacramento, Cal. (Feedstuffs, July 15, page 23).

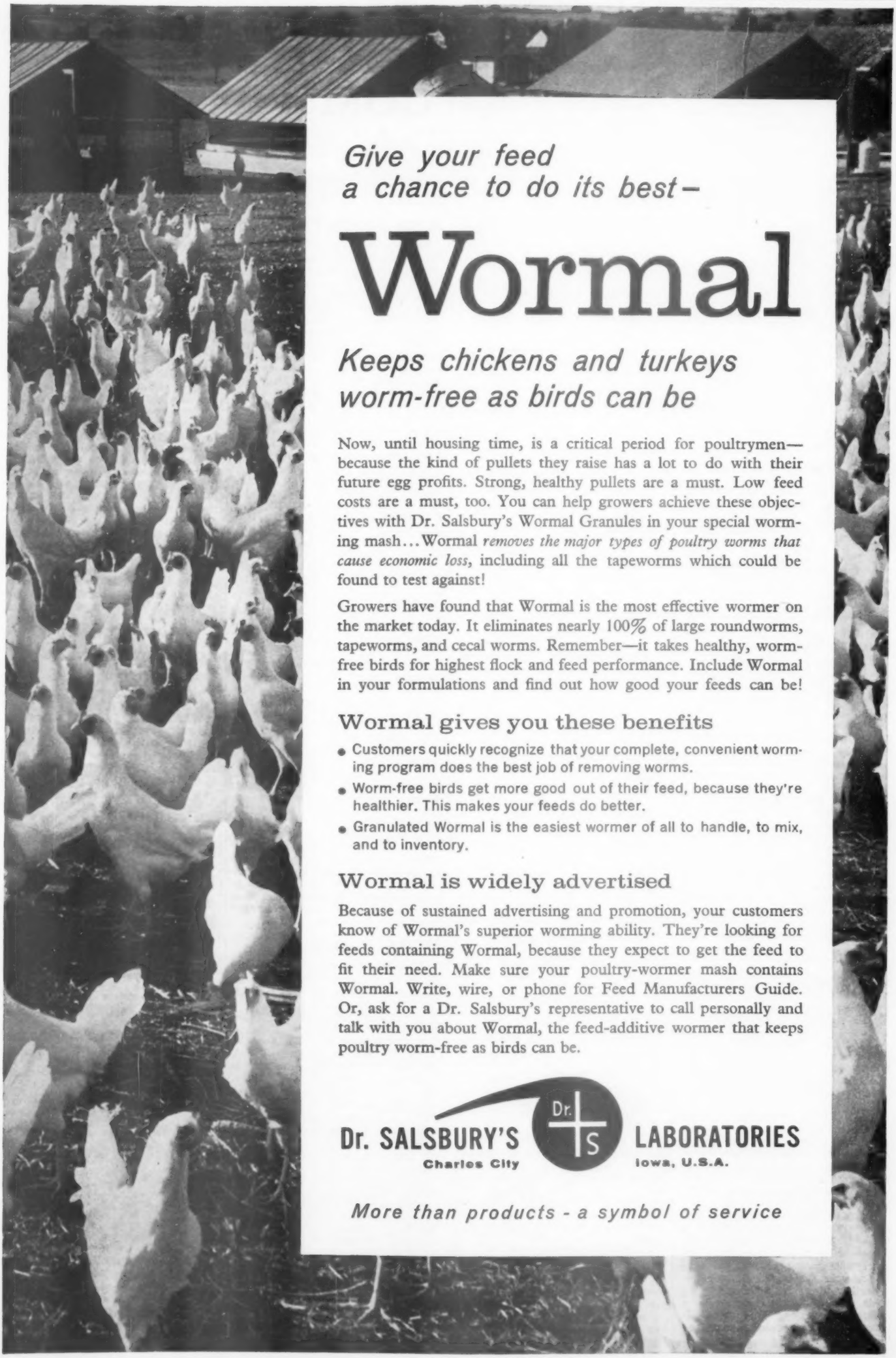
It has been demonstrated that it is possible to produce PPLO-free chicks by the dipping process. Also, according to tests, chicks produced from eggs dipped for prevention of PPLO transmission have had minimal problems with chronic respiratory disease.

Dr. Ben Pomeroy of the University of Minnesota's veterinary medicine department moderated the clinic which also included discussions of hatchery sanitation by Dr. Pomeroy and by Dr. V. W. Green, school of public health, University of Minnesota.

USDA Resumes Poultry Purchasing

WASHINGTON — Resumption of poultry purchases by the U.S. Department of Agriculture school lunch program has been announced by the USDA, which said it is going to buy "a quantity considerably greater" than the 7 million pounds taken last spring.

Purchases will be on a bid basis, but the department did not stipulate just how much it would purchase.



Give your feed a chance to do its best—

Wormal

Keeps chickens and turkeys worm-free as birds can be

Now, until housing time, is a critical period for poultrymen—because the kind of pullets they raise has a lot to do with their future egg profits. Strong, healthy pullets are a must. Low feed costs are a must, too. You can help growers achieve these objectives with Dr. Salsbury's Wormal Granules in your special worming mash... Wormal *removes the major types of poultry worms that cause economic loss,* including all the tapeworms which could be found to test against!

Growers have found that Wormal is the most effective wormer on the market today. It eliminates nearly 100% of large roundworms, tapeworms, and cecal worms. Remember—it takes healthy, worm-free birds for highest flock and feed performance. Include Wormal in your formulations and find out how good your feeds can be!

Wormal gives you these benefits

- Customers quickly recognize that your complete, convenient worming program does the best job of removing worms.
- Worm-free birds get more good out of their feed, because they're healthier. This makes your feeds do better.
- Granulated Wormal is the easiest wormer of all to handle, to mix, and to inventory.

Wormal is widely advertised

Because of sustained advertising and promotion, your customers know of Wormal's superior worming ability. They're looking for feeds containing Wormal, because they expect to get the feed to fit their need. Make sure your poultry-wormer mash contains Wormal. Write, wire, or phone for Feed Manufacturers Guide. Or, ask for a Dr. Salsbury's representative to call personally and talk with you about Wormal, the feed-additive wormer that keeps poultry worm-free as birds can be.

Dr. SALSBURY'S LABORATORIES
Charles City, Iowa, U.S.A.

More than products - a symbol of service

23% Cut in Egg-Type Hatch Trims 1960-61 Difference to 5%

WASHINGTON — A 23% cut in this year's June egg-type chick hatch compared with a year earlier pulled output for the first six months of 1961 down to just 5% more than in the same half-year period of 1960.

This sharp reduction, indicated by the U.S. Department of Agriculture's June hatchery production report, follows on the heels of May's 15% dip.

Egg-type chicks hatched in June, 1961, totaled 33,392,000, nearly a fourth smaller than June, 1960, output of 43,607,000. During the first six months of this year the hatch of egg-type chicks totaled 393,544,000, still slightly above these months in 1960 but 4% below the production of the same period in 1959.

Fewer Eggs in Incubators

July's egg-type chick production is expected to continue the trend set in May and June. Eggs in incubators July 1 indicate a smaller hatch during July than in the same month a year earlier. However, it appears that egg-type hatching cutbacks will slow up somewhat during the current month.

USDA found that there were about 2% fewer egg-type chicken eggs in incubators July 1, 1961, than on July 1, 1960. Most of this reduction came from big cuts in the south Atlantic and west north central states of 36% and 32%, respectively. Other areas with lighter incubations include the New England, east south central and Rocky Mountain states. These reductions are almost offset by increases of 25% in the middle Atlantic states, 19% in the west south central states and smaller gains in the east north central and Pacific States.

Broiler-Type Hatchings

Commercial hatchings of broiler-type chicks during June amounted to 196,504,000—6% above production in the same month a year earlier. This figure established a new record for the month, which may constitute a surprise in that it has been reported that broiler chick placements are being reduced because of the broiler price slump.

Through the first six months of this year, production of broiler-type chicks added up to 1,175,198,000, 12% more than the output of 1,048,838,000 recorded during this period in 1960.

Eggs in incubators July 1 show that the July hatch will be ahead of the same month last year. A gain of 4% in incubated eggs was reported by USDA. Reductions in New England, middle Atlantic, east north central and Pacific states are more than

(Turn to HATCH, page 93)

Dr. Salsbury's to Apply For Vaccine License

CHARLES CITY, IOWA — Dr. Salsbury's Laboratories has announced that it will soon make application for a license to produce a vaccine against avian encephalomyelitis (epidemic tremor) of chickens.

Dr. Peter H. Matisheck, manager of the firm's microbiology department, said the vaccine represents the culmination of several years of research. An announcement will be made by Dr. Salsbury's at a later date concerning the availability of the vaccine to poultry producers.

Dr. Matisheck explained that epidemic tremor, a disease caused by a virus, is becoming of increased importance. The disease typically strikes susceptible young chicks, affecting the nervous system, and may cause a death rate of up to 60%. If laying birds are affected, there may be a severe loss in egg production, although the death rate may not be high, he said.

Ray Firestone Named President of APHF

MINNEAPOLIS — Ray E. Firestone, Troutville, Va., was elected president of the American Poultry & Hatchery Federation at the annual meeting in Minneapolis July 19.

Other officers elected were Richard Hanson, Corvallis, Ore., first vice president; Oscar Nygaard, Watertown, S.D., second vice president; Ray Parmenter, Franklin, Mass., and L. M. Manford, Nixon, Texas, executive directors, Mr. Manford being the outgoing president; Vern Steckley, Kendallville, Ind., secretary-treasurer. Don M. Turnbull was reelected executive secretary.

National Egg Council Reelects Carroll Eiler

MINNEAPOLIS—Directors of the National Egg Council in annual session here reelected Carroll Eiler, egg producer from Warsaw, Ind., as president. Also reelected was William McKay, Vista, Cal., first vice president. Hillman Kien, Little Rock, Ark., was named second vice president. Frank Fletcher, Union Star, Mo., is secretary-treasurer, succeeding Vern Steckley of Kendallville, Ind.

The organization expanded its board of directors from five to nine members. Directors include, in addition to the above officers, Dan Durham, Hammond, La.; Robert Waeltz, Mascoutah, Ill.; Chester Fassio, Salt Lake City, Utah, and Mark Wheaton, Kent, Wash.

President Eiler announced that the membership of the organization stood at 1,287. Mark Wheaton of Washington tendered 167 additional members.

National Egg Council, organized three years ago as a single commodity organization of egg producers, has members in 47 states. Executive offices are at 521 E. 63rd St., Kansas City. The organization introduced a new primary coverage form of insurance for laying flocks and group life and hospital insurance plans for its members, their employees and dependents.

Urges Caution on Cottonseed for Layers

CHICAGO — The American Feed Manufacturers Assn. has urged feed manufacturers to follow research findings and to exercise caution as to type and quantity when using cottonseed meal in laying feeds.

The AFMA said that its attention had been called to a West Coast problem where the alleged use of "untested" cottonseed meal in certain laying feeds had been blamed for a resultant deterioration of egg yolk quality.

It was reported that one of the largest West Coast food chains urged all of its egg producers to demand certification from feed suppliers that any cottonseed meal used in the egg feed formula is of a type that will not cause a loss in commercial value of the eggs.

The use of cottonseed meal in poultry feeds, particularly growing feeds and in turkey feeds, has increased in recent years, AFMA noted. However, the association said, different circumstances are involved in use of cottonseed meal in egg feeds, and caution as to type and quantity was urged.

INGREDIENT FIRM

LOS ANGELES—California Mealfalfa, Inc., Los Angeles, has filed articles of incorporation, listing $200,000 authorized capitalization to deal in hay and manufacture dairy and poultry feed ingredients.

CAPITAL COMMENT

BY JOHN CIPPERLY

Bean Action Protested

WASHINGTON — More protests were heard here this week as objections to the administrative action by Commodity Stabilization Service authorizing an Arkansas farmer cooperative to represent its farmer members in obtaining loans under the soybean price support program.

Prior to the appearance here this week of soybean grower organization representatives, the first alarm bell was rung by Al Oliver's Grain and Feed Dealers National Assn. The group obtained a hearing to protest the action to James T. Ralph, assistant secretary of agriculture, at which time the material offered by the trade group was taken under consideration.

This week, however, the appearance of the strong men of the soybean grower groups provoked more than casual attention from the U.S. Department of Agriculture's top brass. It is important to know that USDA's economic adviser Willard Cochrane came into the session held here this week and after the conclusion of the meeting it was said that the entire decision would be reviewed and the later information would be presented to the Commodity Credit Corp. board at its next meeting.

George Strayer of the American Soybean Assn.; Harold Roach of the Soybean Council, and an Arkansas producer, a Mr. Hartz, reported the strong objections of the producer side of the bean industry. These representatives told USDA officials that they objected on the grounds that loan programs effected through cooperative groups tended to freeze the free market flow. And they insisted that the export flow must be maintained, a condition which might not exist if beans were tied up in cooperative channels.

The appearance of Dr. Cochrane on the scene is the first sign that USDA is bringing to bear top ranking judgment on this issue. And it would now appear that Dr. Cochrane's judgment will prevail in connection with a possible withdrawal of the recently issued order from CSS.

USDA Personnel

WASHINGTON—Stanley Andrews, old hand at top economic levels of USDA and recently with the Kellogg Foundation, has returned to the capital as an economic consultant to Secretary Orville Freeman.

It is understood that Mr. Andrews is studying means whereby USDA can grab off administration of the agricultural aspects of the foreign aid program when the aid bill is approved by Congress.

At this time the State Department seems to have the inside track on handling foreign aid operations on the economic front, including agriculture.

It is further learned that Mr. Andrews' activities have not been disclosed to the front office of the Foreign Agricultural Service of USDA. This casts a strange light on the activities of Mr. Andrews and the position of FAS in this contemplated grab for additional authority in the foreign field of agricultural economic aid. . . .

Reports that Horace Godfrey intends to leave his post as director of Commodity Stabilization Service are ill-founded and probably incorrect. Since the new organization took office, Mr. Godfrey has gained in stature and is highly regarded by the closest of the Freeman advisors. In fact, under the Eisenhower administration, it was known that then CSS director Walter C. Berger tried to bring Mr. Godfrey into a spot at CSS but was unable to get clearance due to Mr. Godfrey's politics.

Drouth Aid

WASHINGTON—The House Agriculture Committee this week approved a bill to make available CCC stocks of feed grains for drouth relief at a price not less than 75% of the price support in the county where delivered.

Other approaches on this program include a measure introduced by Wyoming Republican Congressman William Henry Harrison, who insists that if distillers are to obtain CCC grains at the price of 64¢ bu. delivered to the distilling plant, there is no reason why the drouth area farmers are not entitled to such bargain rates. When the drouth feed grain bill gets to the House floor, there is some possibility that Congressman Harrison may raise this issue.

Formation of Large Southern Nutrition Conference Proposed

WEST END, GRAND BAHAMA ISLAND — Formation of a large southern nutrition conference, with at least five states participating, was proposed at the 14th annual convention of the Georgia Feed Assn. here this week.

Such a conference, it was pointed out, would make it one of the most important in the country. And it would enable the South to attract speakers "comparable to those offered by any nutrition conference in the country."

The proposal was put forth by Dr. George Ingram, secretary of the Alabama Feed Assn., who said his association is already looking into the possibilities and is now sounding out other state associations. The Georgia association agreed to consider the matter.

Cooperation Needed

Dr. Ingram emphasized that such a conference could be put on in the South only with the cooperation and financial assistance of each state association because of the expense involved. If at least five southern states would cooperate, the Alabama association's preliminary findings indicated, each state's proportionate share of the costs would not be prohibitive.

The states Dr. Ingram suggested for participation are Alabama, Georgia, Mississippi, Florida and Tennessee. The site of the conference would possibly be on a rotating basis so that each state would be fully represented, he said.

The Alabama association already has appointed a committee to study the possibilities, and Roger Hampton, newly elected president of the Georgia association, said the Georgia group would also study the matter.

Dr. Ingram emphasized that the conference would not replace the an-

(Turn to PROPOSAL, page 93)

Executive Offices Of Cyanamid Ag Division to Move

NEW YORK — The executive offices of American Cyanamid Co.'s agricultural division will be moved to its new agricultural center on or about Sept. 1, 1961, announced C. D. Siverd, general manager of the division.

Research and development groups formerly located at Cyanamid's Stamford, Conn., and Pearl River, N.Y., laboratories, will relocate prior to the September date. The division's marketing, manufacturing, technical service, accounting, personnel and other service groups now located in New York City will move in shortly after the research and development personnel.

The 640-acre tract on which the agricultural center is situated is in West Windsor Township three miles southwest of Princeton. The new center combines modern facilities for laboratory research and development work with practical field-testing conditions similar to those found on a well-run commercial farm.

Research efforts at the center will be directed toward the development of new and improved products for animal and plant production and protection.

This summer, scientists and staff will move into a two-story brick research building, now nearing completion, comprised of three major wings, each devoted to a different phase of agricultural research—animal science, plant science and chemistry.

Farm buildings carefully designed to provide ideal conditions for animal nutrition and disease studies are also located at the center. Cultivated fields and facilities are available to carry out studies involving insecticides, nematocides, fungicides, herbicides, and plant food studies.

The administration building, designed to house over 200 persons, is scheduled for completion by September and matches in architectural design the research building. Both buildings are located in a campus-like setting.

Joe N. Pless Co. Opens Forest, Miss., Facility

FOREST, MISS.—The Joe N. Pless Co. of Memphis, Tenn., has announced completion of new office and warehouse facilities in Forest.

Establishment of the new operations was prompted by "tremendous growth of the poultry and feed industry in Mississippi," said Joe N. Pless, founder of the company.

R. P. (Bob) Stringer, who joined Pless in July, 1959, will manage the new operation.

The Forest warehouse will stock a complete line of feed supplements and animal health products.

COMMITTEES

(Continued from page 1)

approach is superior to the move on Congress in trying to force-feed unpalatable measures, such as the effort to preempt congressional authority over farm programs. The Secretary evidently did not measure his problem, nor did he have the reserve strength to follow through once he undertook the venture.

Both committees have approved the feed grain bill for another year, and there is no reason to believe that this provision will be upset on the floor in either chamber. The feed grain bill includes barley as a feed grain crop which must be held to the 1959-60 acreage to be eligible for price support. Corn and sorghum rates of payment will continue as of this year's program.

The wheat acreage cutback program is a mandatory program requiring wheat producers to reduce their acreage by 10% to obtain price support, which it is expected will be set at $2-2.04 bu., but the wheat growers may cut back an additional 30%, for which they would be compensated on the basis of 50% of their yields on that crop in the years 1959-60.

Wheat Problem

In that respect both the House and Senate bills are in agreement, but the lower chamber has amended the administration proposal to permit the 15-acre exemption farmers to retire all of their acreage and be eligible for price support either in cash or in kind, as provided for in both the feed grain and other aspects of the wheat bill.

It is understood, however, that there will be an attempt made on the House floor to amend this particular provision of the House bill which would exempt the small 15-acre wheat acreage from provisions of the mandatory cutback of 10%.

Authorization to withdraw all of any 15-acre exemption under the wheat bill is extremely disturbing to USDA and also to many flour mills. USDA officials told this reporter that they fear that the 15-acre withdrawal provision would mean that as much as 35-40% of the small farms would take out all their wheat acreage and thereby make a distressing reduction in soft red wheat production. Representatives in the House seeking to modify the measure as reported by the committee will support their cause by urging that classes of wheat in short supply would not be included in any cutback in acreage requirement. Such exceptions previously have been made for durum wheat.

Cooperative Provision Dropped

Another title of the administration omnibus bill which fell by the wayside in the House Committee was that concerning the permission of farmer cooperatives to merge and even take over other businesses. This provision of the omnibus bill was included in an effort to upset the recent decision by the Supreme Court in the Maryland-Virginia milk case, whereby the high court virtually determined that such activities were beyond the scope of the cooperative farm legislation and that they constituted a violation of anti-trust laws.

The administration proposal from USDA would have removed this federal court ban on mergers of cooperatives and permitted them to merge or buy out or obtain other business operations, thereby by-passing the anti-trust aspects of two cases where the farm cooperatives appear to have gotten out of line.

Members of the House Agriculture Committee said that this provision was stricken from the bill by an overwhelming majority, and it is extremely unlikely that it will be restored by floor amendment. It is also learned that the House Committee, by virtue of its heavy majority against this proposal of USDA, would not agree to accept the Senate version of this title of the omnibus bill, which gives the secretary of USDA broad discretionary authority to restrain cooperative mergers from what he may determine to be in violation of anti-trust laws. This Senate caution is not seen adequate to halt the farmer cooperatives in this field of expansion.

NEW FACILITIES—Marking the opening of a new office and warehouse at Forest, Miss., for the Joe N. Pless Co., H. O. Dermody (left), assistant general manager, agricultural division, Chas. Pfizer & Co., Inc., New York, congratulates Joe N. Pless, founder of the Memphis headquartered firm, which recently was appointed ethical veterinary distributor for Pfizer. The new warehouse shown here will stock a complete line of feed supplements and animal health products.

Delmarva Feed Men Talking of Changing Broiler Pay System

By KELVIN ADKINS

Feedstuffs Special Correspondent

SALISBURY, MD.—There is much talk in the feed industry of Delmarva about cutting out broiler contracts and going back on an old 75-25% split on profits—or perhaps some similar split of profits after the dealer's expenses are deducted.

In most cases this is just talk. But at least one company in Delmarva has come to a plan where the broiler grower suffers with low prices just like his contractor. According to this plan, all costs of feed, baby chicks and supplies do not include a markup for the contractor. Then when the chickens are sold, a percentage of the profits goes for the feed, to the hatchery and to the grower. This puts the broiler business back in the hands of the broiler grower, the company claims.

Feed dealers have begun to say there is no broiler price relief in sight until at least the first of the year. At present, offerings of live poultry are in good balance for the active processing demand. Broiler contractors who do not manufacture their own feed are cutting back. However, the feed mill owner has little choice but to keep his mill operating because of the high overhead and to keep his customers.

Broiler feed ingredients costs rose slightly over $1 a ton last week, with the average price of 20% feed going at $93.57. The price of broilers averaged 14.01¢. A pound of broiler meat would buy 3 lb. feed, the same conversion as a week earlier.

Rules Amended On Absorption of Water by Poultry

WASHINGTON—The U.S. Department of Agriculture has announced that it has amended the regulations governing poultry inspection to minimize water absorption by processed poultry.

"The amendment, to become effective Aug. 1, 1961, will give consumers added protection in buying federally inspected poultry by reducing the maximum amount of water absorption permitted and by extending this control to all styles of packaging," USDA said.

"As required under federal inspection, processors must provide consumers with scrupulously clean, ready-for-the-pan poultry. Good sanitation requires that birds be thoroughly washed at various stages of processing, making some water absorption inevitable.

"Further water pick-up is inevitable in chilling, since the best means of preserving wholesomeness and good eating quality are to chill poultry promptly after evisceration by using ice and water or refrigerated water.

"Since January, 1959, when the Poultry Products Inspection Act went into effect, the Poultry Division of USDA's Agricultural Marketing Service has studied the problem of water absorption to determine the normal moisture level resulting from good processing and chilling techniques.

"Based on these studies, preliminary limits were set more than a year ago for water absorption by poultry to be consumer packaged or frozen. The proposed amendment to the regulations was published for comment May 24. The amendment announced is substantially the same as that proposed."

Specifically, the amendment will provide the following limits on water absorption:

For poultry that is to be consumer packaged or frozen, or both: turkeys 20 lb. and over, 4.5%; turkeys 10 to 20 lb., 6%; turkeys under 10 lb., 8%; chickens 5 lb. or less, 8%; all other kinds and weights of poultry, 6%.

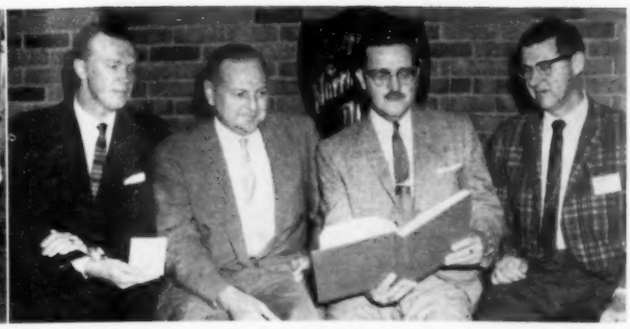
For ice-packed poultry, the limit will be 12% at the processing plant. This amount, USDA studies have shown, will be reduced through drainage during the normal marketing process, so that by the time the poultry reaches the retail store where it is weighed for sale, the moisture level will be within the limits set for consumer-packaged and frozen products.

Forms New Ingredient Company in Iowa

CLEAR LAKE, IOWA — S 'n M Sales, Inc., Clear Lake, has been organized to represent manufacturers and processors of feed ingredients and specialty products in the Midwest.

Company organizer is Sam W. Fleming, who was formerly with Vy Lactos Laboratories, Inc., Des Moines, where he served as district manager, regional manager and director of advertising and promotion.

Tastelation®
Econ-O-Mix Powdered Anise Compound 10-X
(Pat. No. 29218531)
Here's the finest DRY Anise Flavor available . . . at a price you can afford. Contains 10 times more active oils (actually 25%) than the best grades of Chinese Star Anise Seed. Write for sample.
TASTE ENGINEERING, INC.
1401 West Hubbard Street Chicago 22, Illinois
MOnroe 6-5255
Manufacturers ● Importers ● Distributors



PRODUCTION SCHOOL PLANNING—Two meetings were held recently in Minnesota to wrap up plans and preparations for the 1961 Feed Production School, set for Sept. 11-13 in Kansas City, with a Small Mill Workshop following on Sept. 14. The first photo above shows a session at Manhattan Beach, Minn., which was part of 18 hours of program rehearsal by 29 of the 34 speakers on the school program. Speakers and committee members went over the presentations and made final plans for talks and specialized sessions. The second photo, taken at a meeting in Minneapolis, shows four men discussing the big Handbook of Feed Production prepared in connection with the 1961 school. Left to right are: E. R. McCollester, Consumers Cooperative Assn., co-chairman of the Small Mill Workshop; Dr. Harry Pfost, Kansas State University, editor-in-chief of the handbook; Eric Carlson, Ralston Purina Co., school committee chairman, and George Gates, editor of Feedstuffs.

Poultrymen Tell of Their Successful Management Methods

MINNEAPOLIS—Describing their proven ideas on egg producing operations at a press conference held in conjunction with the American Poultry & Hatchery Federation convention here were four successful poultrymen.

Sponsoring the conference was Hess & Clark, Ashland, Ohio, manufacturer of nitrofurans and other feed medications.

Moderator for the session was Dr. Howard C. Zindel, professor and head of the department of poultry science, Michigan State University. The poultrymen who told their ideas on egg production were: Donald Pardun, North Highlands, Cal.; T. C. Gray, Iva, S.C.; Paul J. Peterson, Sherburn, Minn., and Reginald M. Barton, Fayetteville, N.C.

"How I Produce a Quality Egg" was the topic of Mr. Barton. He related, "No single or several practices will guarantee a quality product. It's the sum total of results from your whole operation, birds, feeding, equipment, housing and all the aspects of good management.

"First, I buy good birds, I stick with blood lines that have proved themselves to be top performers and that can produce a quality egg when given the chance. Secondly, I provide a good feed and follow good feeding practices. Next, I keep my birds healthy. I follow a strict health program, using a medication in the feed continuously as a preventive and stress fighter, in addition to proper sanitation procedures. My birds have averaged 240 to 250 eggs per bird on a hen-housed basis. Now that's on all 23,000 birds. One house hit 270 last year. My eggs are grading about 92% to 93% Grade A—that's overall."

Farm Flock Profitable

Mr. Peterson told persons attending the press conference that if he had followed all the advice on larger flocks and specialization he has read, he wouldn't be at the meeting. His 1,600 flock is just a part of a diversified farming operation that includes 360 acres of farm land and beef cattle and hog raising programs in addition to the hens.

However, Mr. Peterson says, the records show he is making good money with his poultry flock. His talk was entitled, "How I Make Money With a Farm Flock."

"One thing that is certainly important to making a profit on layers is labor," he said. "I keep close track of the hours I spend caring for my hens.

"As far as I'm concerned, record keeping is just as important as having layers in the house. My records have shown me that my egg operation is one of the most profitable phases of my farm. Good records enable me to tell where my weak points are and I can take steps to improve them.

"Finding a good market for your eggs is important for the midwestern farmer, too. I sell my eggs on a quality control, graded market. Generally, my selling price runs about 6¢ over the quoted local price. My eggs average 95% Grade A."

"Old Fashioned" Methods

Mr. Gray described his pullet raising methods as possibly sounding a little "old fashioned." In his talk entitled, "How I Grow Pullets," he said, "I'll be the first to admit that some of the practices were used years ago . . . but that doesn't make them out-of-date. I have combined them with a number of newer techniques to build a pullet growing program that works for me.

"We brood our chicks in the conventional manner and move them into free range houses when no further heat is needed—usually at about eight weeks. A good grass range is provided.

"Birds are vaccinated when they are moved to the range. We vaccinate for chicken pox and laryngotracheitis at this time and also worm them. Because I feel that this is a stress, I give the birds extra protection at this time. We feed medicated ration containing 100 gm. of furazolidone for 10 days to two weeks—starting before vaccination.

"Following the medicated ration we put birds on a restricted growing program. Whole, heavy oats is kept before the pullets from the time they are six weeks-of-age until they go into the laying house. Mash is limited to 5 lb. daily per 100 birds. But we feed mash only five days a week . . . skipping Wednesdays and Sundays.

"At around 14 weeks of age we vaccinate for Newcastle and bronchitis. Here again, we put the birds on a full mash feed containing a medication for 10 days to two weeks.

"After this two-week feeding, we go back to our limited feeding program of 5 lb. of mash per 100 birds five days a week and continue this program until the first eggs are dropped. Then we full-feed mash from then on.

"Before moving birds to the laying house, we worm them again and, at the same time, put them on the medicated ration for about two weeks. We continue to use a medicated ration in the laying house—increasing the level at any time of stress or sudden change in the weather. With this program we have avoided a problem that troubles a lot of poultrymen — bluecomb. We have never had bluecomb since starting on this program."

Financial Records

In his talk, "How I Use Records to Improve Egg Income," Mr. Pardun said, "Each December I set-up a budget for operation during the coming year. Long range goals for such things as ranch capacity are reviewed and studied. Short range

(Turn to POULTRYMEN, page 97)

CATTLE

(Continued from page 1)

with 1,628,000 head last July 1—a decrease of 3%.

Placements Up 2%; Marketings Up 9%: The number of cattle and calves placed on feed during April through June totaled 2,212,000 head compared with 2,164,000 head the same period last year—a 2% increase. Shipments of stocker and feeder cattle into eight corn belt states (for which data are available) during April and May this year were up 10% from the same two months in 1960.

During the April through June period this year marketings of fed cattle amounted to 3,475,000 head, up 9% from the 3,183,000 head marketed during April-June, 1960. Marketings were up 14% in the western states and 6% higher in the north central states.

Weight of Cattle on Feed: Of the cattle and calves on feed in the 26 states July 1, those weighing under 500 lb. accounted for 3% of the total this year compared with 4% on July 1, 1960. The 500-699 lb. group made up 20% of the total compared with 21% a year earlier. The 700-899 lb. group accounted for 45% compared with 42 a year earlier. The number weighing 900-1,099 lb. at 23% compared with 25% of the total last year, while those in the over 1,100 lb. group comprised 9% of the total this year and 8% last year.

Kinds on Feed: In the 26 states, 71% of the cattle and calves on feed July 1 were steers and steer calves, 28% were heifers and heifer calves and 1% were cows and other. The number of steers and steer calves, at 4,068,000 head, was up 3% from July 1, 1960, while the number of heifers and heifer calves, at 1,653,000 head, compared with 1,655,000 head a year earlier.

Time on Feed: In the 26 states, cattle and calves on feed by length of time as a per cent of total on July 1 this year and last were: Under 3 months, 37% both years; 3 to 6 months, 32 and 33%, and over 6 months, 31 and 30%.

Marketing Intentions: Reports from cattle feeders in the 26 states indicate they intend to market 57% of the July 1 inventory or 3,297,000 head during July, August and September. If intentions are carried out, the marketings would be 3% above the 3,210,000 head marketed the third quarter of last year from the July 1 inventory.

June Marketings for 12 Markets: Steers and heifers marketed out of first hands for slaughter at 12 livestock markets during June, 1961, totaled 548,214 head compared with 549,434 head in June last year. Steer marketings totaled 421,029 head, up 3% from the 409,705 head last year. Marketings of heifers, at 127,185 head, compare with 139,729 head marketed in June, 1960—down 9%.

NBC

(Continued from page 1)

In other action, the board elected the following to serve on the executive committee: Charles Miller, Piedmont, Ala.; Wes Paris, Atlanta; Dennis Ramsey, Rose Hill, N.C.; Ted Cameron, North Little Rock, Ark.; John Tyson, Springfield, Ark.; James Evans, Gainesville, Ga.; Don Corbett, Waterville, Maine; Paul Morgan, Guilford College, N.C., and B. C. Rogers, Morton, Miss.

Members-at-large elected to the new board are: Charles Dixon, Monett, Mo.; L. A. Wilhelm, Chicago; Ray Fechtel, Atlanta, and John Hargreaves, Federalsburg, Md.

In an example of democracy in action, officers and executive committee members were elected by secret ballot under a procedure that in effect made each board member a candidate. This system eliminated the need for, or use of, a nominating committee.

Conference Set

The board also set Oct. 18 and 19 as the dates for the NBC annual conference to be held at the King Edward Hotel in Jackson, Miss. Program for this meeting will be highlighted by the unveiling of proposed plans for 1962 NBC programs.

"Reflecting growing industry support of NBC's expanded programs, the board approved a 25% budget increase for the last half of 1961. This enables NBC to greatly intensify hard-hitting sales promotion activities during the crucial months ahead," said Joe Frank Sanderson, NBC president.

The NBC board approved recommendations from the merchandising committee which called for retailer merchandising seminars to be programmed during the remaining half of this year. Also, a second advertising service for retailers and related sales promotion and point-of-purchase materials are scheduled to be a major part of NBC's merchandising program for the balance of 1961.

THE LINE OF LEADERSHIP

Amburgo

DISTRIBUTORS and SERVICE for

BACIFERM

Zinc Bacitracin—(C3C)

The leading Zinc Bacitracin for growth stimulation and high-level feeding at low-level cost. Contains plus values of vitamins and proteins in addition to the antibiotic content. Natural fermentation.

1315-17 WALNUT STREET
Philadelphia 7, Pennsylvania
1636 NORTH CALAVERAS STREET
Fresno, California
PLANT: Hope, Indiana

"It's good business to do business with Amburgo"

Penicillin Doesn't!

Tetracyclines Can't!

Streptomycin Won't!

Baciferm®
(ZINC BACITRACIN)
GIVES YOU THIS
COMBINATION OF ADVANTAGES:

1. BACIFERM zinc bacitracin gives you stability superior to all other antibiotics.
2. BACIFERM zinc bacitracin gives unexcelled growth stimulation in poultry at the economical level of 4 grams per ton.
3. BACIFERM zinc bacitracin gives unexcelled growth stimulation in swine at 10 grams per ton.
4. BACIFERM zinc bacitracin gives effective hi-level disease control at lowest cost with selective activity.
5. BACIFERM zinc bacitracin is an all-fermentation product with the extra nutrient values of 30% protein, natural B-complex, vitamin K and unidentified growth factors.
6. BACIFERM produces no evidence of resistant bacteria.

GET BACIFERM . . . GET YOUR MONEY'S WORTH!

Zinc Bacitracin Antibiotic Supplements

ANIMAL NUTRITION DEPARTMENT • COMMERCIAL SOLVENTS CORPORATION, 260 MADISON AVENUE, NEW YORK 16, N. Y. • IN MEXICO: COMSOLMEX, S.A., MEXICO 7, D.F. CSC

Names in the News

PURINA APPOINTS MARKET RESEARCH DIRECTOR—Arthur S. Pearson has been appointed director of market research for the Ralston division of the Ralston Purina Co., St. Louis, it has been announced by Geoffrey Baker, vice president in charge of the Ralston division.

Mr. Pearson will head a newly-created market research department in the Ralston division. He will headquarter in the company's general office in St. Louis.

For the past three years, Mr. Pearson has been manager of market research for the Jello division of General Foods Corp., White Plains, N.Y.

AMERICAN CYANAMID APPOINTS R. T. PIERCY—R. T. Piercy has been appointed assistant animal health products supervisor for the agricultural division of American Cyanamid Co., New York, according to E. H. Smythe, division marketing director.

R. T. Piercy

Mr. Piercy will report to B. M. Zillman and will be involved with the promotion and marketing of the company's full line of veterinary and animal health products.

Prior to this appointment, Mr. Piercy held the position of district sales manager for animal industry products in the southwestern region. Veterinary and animal feed products sales were under his supervision in the Kansas City district.

HEISDORF & NELSON FARMS ANNOUNCES APPOINTMENT—Dr. Franz Pirchner has been appointed to the genetic staff of Heisdorf & Nelson Farms, Inc., Kirkland, Wash., according to Gerald Cruea, general manager.

Dr. Pirchner, who obtained his Ph.D. degree from Iowa State University, Ames, is a native of Austria, where he served with the extension service in the Austrian Tyrol for two years. He was also in charge of a research station specializing in cattle husbandry near Vienna.

NBC NAMES MERCHANDISING DIRECTOR—Merle J. Thomas has accepted the position of director of merchandising for the National Broiler Council, Frank Frazier, NBC executive vice president, announced.

Merle J. Thomas

Formerly the agricultural counsel for the Kroger Co. in its Cincinnati, Ohio, headquarters, Mr. Thomas has been closely related to the marketing and merchandising of agricultural commodities in retail outlets since joining Kroger in 1956.

MEAT INSTITUTE FOUNDATION PROMOTES TWO—Promotion of two long-time members of the staff to top positions at the American Meat Institute Foundation, Chicago, have been announced jointly by Homer R. Davison, president of the foundation, and George W. Beadle, chancellor, University of Chicago.

Dr. Delbert M. Doty, a member of the AMIF staff since 1948, and an associate director of research and education there since 1956, has been named AMIF director of research and education.

Dr. Charles F. Niven, Jr., is the new scientific director. Dr. Niven became chief of the AMIF division of bacteriology when research operations began at the foundation in 1947, and was appointed an associate director in 1956.

Harry W. Walker — Don R. Russell

ST. REGIS PAPER APPOINTMENTS—St. Regis Paper Co., New York, has announced new sales management appointments and the creation of new sales territories east of the Mississippi River, which are a part of its bag division expansion program.

William S. Doolan

Harry W. Walker has been named director of operations (sales) for a newly-formed Great Lakes-Gulf area, which will include the territory from the Great Lakes through the Ohio Valley, and south to the Gulf of Mexico. Mr. Walker, who will make his headquarters in the company's Chicago office, comes from the Columbus, Ohio, office where he has been bag division sales manager for the Ohio Valley region.

Don R. Russell has been appointed to succeed Mr. Walker at Columbus. He reports to his new post from the company's New York office where he has served for the past two years as multiwall products manager for the bag division. He previously had served as branch manager of the division's Minneapolis and Cincinnati sales offices.

Mr. Walker also will be assisted in the new Great Lakes-Gulf area by William A. Harris, who will continue as sales manager of the Chicago region, and John B. Brent, who will continue as sales manager of the southern region with headquarters in Birmingham, Ala.

Charles A. Woodcock, who continues as director of operations (sales) for the eastern area, with headquarters in New York City, will be assisted by the following newly-appointed regional sales managers: William S. Doolan, sales manager of the newly-formed south Atlantic region, with headquarters in Savannah, Ga.; Robert E. Harrison, mid-Atlantic region, with headquarters in Baltimore; William T. Orr, northeastern region, with headquarters in New York City; and William H. Versfelt, metropolitan New York region.

The creation of the south Atlantic sales region is an extension of the bag division's operations in Savannah, which include the activities of the Chemical Packaging Co. division.

SOUTHERN BAG CORP. APPOINTMENTS ANNOUNCED—Wilburn F. DeLancey and Julius Griggs have been appointed general manager and sales manager, respectively, of Southern Bag Corp., Yazoo City, Miss., according to Warren A. Hood, company president.

Both Mr. DeLancey and Mr. Griggs are experienced in the multiwall bag field.

Southern Bag Corp. is the successor to First Packaging Corp. of Yazoo City, and is under completely new ownership and management.

New owners of the firm are Consolidated Paper Co., Monroe, Mich.; Crandon Paper Mills, Chicago; and Warren A. Hood, Jackson, Miss.

NULAID APPOINTS INDUSTRIAL ENGINEER—The appointment of John McDade as industrial engineer for Nulaid Farmers Assn., San Leandro, Cal., has been announced by Norman F. McIntyre, general manager.

Mr. McDade was formerly with Norbest Turkey Growers Assn. His assignment will be that of establishing and maintaining efficiencies in all Nulaid plant operations.

BUCKEYE INCUBATOR ELECTS W. C. WELLS—W. C. Wells has been elected vice president of the Buckeye Incubator Co., Springfield, Ohio, subsidiary of the Buckeye Corp.

Mr. Wells will head a new and expanded activity of the company in the field of general sales engineering, coordinated with an expanded product research program.

He is known throughout the Southwest as Buckeye's district manager in Texas and Louisiana since 1951. Prior to joining Buckeye, he was experienced in business management and poultry farm operations. In 1959 he was appointed regional manager for Buckeye.

DR. L. W. SCHRUBEN RETURNS TO K-STATE—Dr. Leonard W. Schruben, professor of agricultural economics, has returned to Kansas State University, Manhattan, Kansas, after being on leave the last year and a half.

Dr. L. W. Schruben

During his absence, Dr. Schruben was economic adviser to Great Plains Wheat Inc., of Garden City, Kansas. As a separate activity, he conducted a series of meetings in foreign countries, in cooperation with the Grain Sorghum Producers Assn., a private trade group of Amarillo, Texas. This group of meetings took him around the world.

Dr. Schruben is returning to K-State to teach and to resume charge of grain and feed marketing research.

WESTERN HATCHERIES POST TO G. R. PETERSON—The appointment of G. R. (Bob) Peterson as general manager of Western Hatcheries, S.A. of Mexico, has been announced by Joe Fechtel, president of Western Hatcheries, Dallas, Texas. Included in the Mexican operation are hatcheries at Monterrey, Cuernavaca, Leon and Guadalajara; the management of a feed mill in Mexico City and extensive breeder and broiler production farms.

G. R. Peterson

Mr. Peterson, former director of industry relations for the National Broiler Council, plans to move his family from Richmond, Va., to Mexico City in the near future.

Prior to his work with the National Broiler Council, Mr. Peterson was associated with The Pillsbury Co., Minneapolis, for many years, the last five as general manager of its feed division.

SECO NAMES 2 MOBILE FEED MILL SALESMEN—Two new salesmen to specialize in the sale of Seco pushbutton mobile feed mills have been appointed, according to Paul J. Zimmerman, executive vice president of Seco, Inc., Goodlettsville, Tenn.

They are Ed Brooks to cover west and north central Tennessee, and Richard S. Gamble, who will work the southern Alabama territory.

Mr. Brooks served as director of admissions at McCallie School in Chattanooga, Tenn., before joining Seco.

Ed Brooks — Richard S. Gamble

Prior to joining Seco, Mr. Gamble was employed by C.I.T. Corp. as a sales correspondent in Atlanta, Ga.

CYANAMID PROMOTES G. F. STEGALL—The promotion of G. F. Stegall to east central regional manager for the agricultural division of American Cyanamid Co., New York, has been announced by E. H. Smythe, divisional marketing director. Mr. Stegall replaces Dr. M. J. Harvey who has been appointed animal feed products supervisor in the division's New York office. Mr. Stegall, who will report to J. H. Howard, divisional sales manager, was formerly assistant regional manager for the southeast region.

G. F. Stegall

He joined Cyanamid in 1947 as a sales representative and since then has held several managerial positions involving agricultural sales. He is a graduate of the University of Tennessee and received his B.S. in agronomy in 1946.

MUNSON MILL MACHINERY NAMES REPRESENTATIVE—William L. Horr of Moorestown, N.J., has been appointed manufacturer's sales representative for the Munson Mill Machinery Co., Utica, N.Y.

Mr. Horr, who will work eastern Pennsylvania, southern New Jersey, Maryland and Delaware, will handle Munson rotary batchers, mixers and mills as well as complete process systems.

His sales experience includes four years with the W. W. Sly Manufacturing Co. of Cleveland and two years with Worthington Corp., Harrison, N.J.

W. R. GRACE PROMOTIONS ANNOUNCED—R. L. Tilton has been promoted to general sales manager of the nitrogen products division of W. R. Grace & Co., Memphis, Tenn., and will be in charge of all sales of ammonia, urea and solutions. His office will be at Grace's nitrogen products division headquarters in Memphis. Mr. Tilton succeeds F. J. Ronan who has been elected vice president in charge of marketing for the nitrogen products division, and will be located in New York. For the last two years, Mr. Tilton was sales manager for Grace's St. Louis district. Prior to joining Grace, Mr. Tilton directed the promotion of ammonia sales in the Midwest for Olin Mathieson Chemical Corp., New York.

R. L. Tilton

This and other appointments were announced by William J. Haude, president of Grace's nitrogen products division.

L. P. Massari has been promoted to assistant general sales manager, with headquarters in Memphis. In addition, Mr. Massari will continue to serve as urea product manager and export manager, a position he has held for the last five years. Mr. Massari came to W. R. Grace in 1955

M. M. McCaslin L. P. Massari

from Pittsburgh Coke & Chemical Co.

E. C. Abbott has been named manager of retail ammonia sales for the nitrogen products division, and will be located in Memphis. Mr. Abbott joined W. R. Grace in 1955 as manager of Sangamon Grace Ammonia Co., Decatur, Ill., where he directed retail ammonia sales in central Illinois. He operated his own anhydrous ammonia distribution stations in the Decatur area prior to joining Grace.

J. L. Wilson has been named to succeed Mr. Abbott as general manager of Sangamon Grace Ammonia Co. Before joining Sangamon Grace in 1959 as assistant manager, Mr. Wilson was a distributor of anhydrous ammonia in southeast Missouri.

M. M. McCaslin has been promoted to sales manager of the St. Louis district of the nitrogen products division, succeeding Mr. Tilton. He will be in charge of sales for Kansas, Missouri, southern Illinois, southern Indiana and Kentucky. Mr. McCaslin has been a special sales representative in the Midwest for Grace. His office will be in St. Louis.

Swisher Feed Holds School for Personnel

DANVILLE, ILL. — Swisher Feed Division of the William Davies Co. here recently held its 1961 Feed School for personnel working for firms under Swisher Feed Service franchise agreements.

The firm states that the intensified program covered nutrition, feeding, research, merchandising and customer service.

A highlight of the two-day program was the appearance of a special guest speaker, Ralph Everett, sales consultant and sales instructor. Mr. Everett conducted a sales clinic entitled "A Fistful of Future."

Other guest speakers participating in the school were W. K. Meyer, chief nutritionist, and A. Mooney, general sales manager of Canada Packers, Ltd. Those from the Swisher organization participating included: W. L. Lavery, general manager; Robert Freeman, sales manager; Henrie Miller, advertising manager, and Floyd Johnson, poultry service specialist.

Drouth Area Named

WASHINGTON — Eleven counties in Nevada have been cited as emergency drouth areas by Orville L. Freeman, secretary of agriculture.

Farmers in these areas where drouth has reduced livestock feed supplies will be able to buy government-owned feed grains at current support prices to provide feed for their livestock.

Counties designated are: Churchill, Clark, Eureka, Elko, Lander, Lincoln, Nye, Pershing, Storey, Washoe and White Pine.

Commodity Credit Corp. owned feed grains, as available, will be offered for sale in the designated areas. The period of assistance will begin Aug. 1 and run through Sept. 30, the announcement said.

MR. FEED MANUFACTURER:
For ACTION and RESULTS
INVESTIGATE THE
Ultra-Lyte PROGRAM
EAST ST. LOUIS, ILL.

AVI Opens Hatchery At Waldron, Ark.

WALDRON, ARK. — A modern hatchery was recently put into partial operation here by Arkansas Valley Industries, Inc. Full capacity of the incubators is 1,240,000 eggs, according to W. H. Clements, president of the Scott County Feed Co. and poultry processing plant of the Waldron division.

The first hatch came off recently from one of the 99,000-capacity incubators, while several other incubators are being installed.

The hatchery has controlled heat and humidity, and there is an auxiliary power unit that automatically switches into operation should there be a power line failure. Floor space in the hatchery approximates 13,200 sq. ft.

The company plans to hatch out 300,000 baby chicks per week, which will be carried to farm growing houses in this area. To keep a constant supply of eggs, the company has a flock of 100,000 breeder hens.

The incubators are 1½ times larger than the largest the manufacturer has built before. The hatchery will be completed about Dec. 1 and be on full production shortly afterwards.

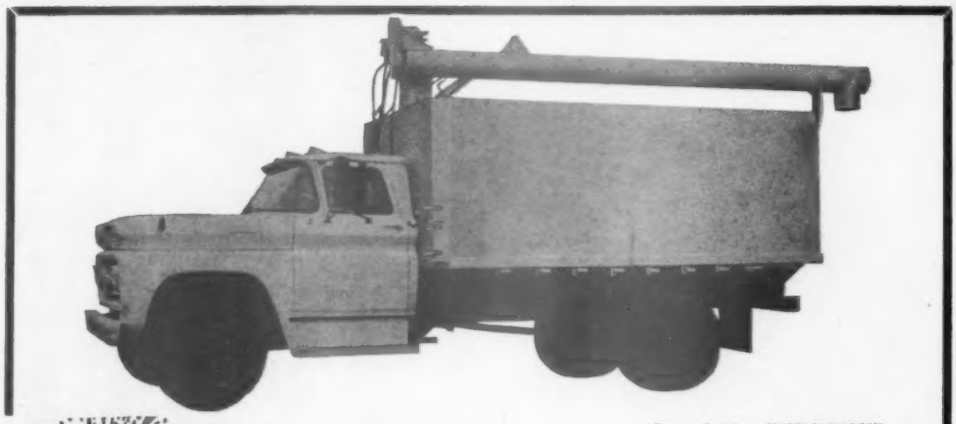
Stop Wasting Money

On Obsolete Bag Closing Sewing Machines!

Replace with fast, efficient, modern equipment. All sizes from portables to automatic conveyors to fit your job.

For prices, terms and name of nearest representative write:

MINNEAPOLIS SEWING MACHINE CO.
4865 Osseo Road • Dept. F-61
Minneapolis 12, Minnesota



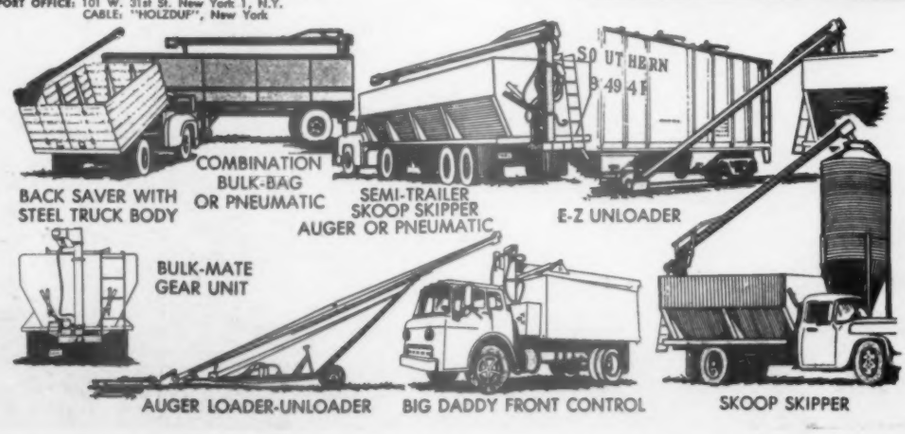
Pamco's New "BIG DADDY"

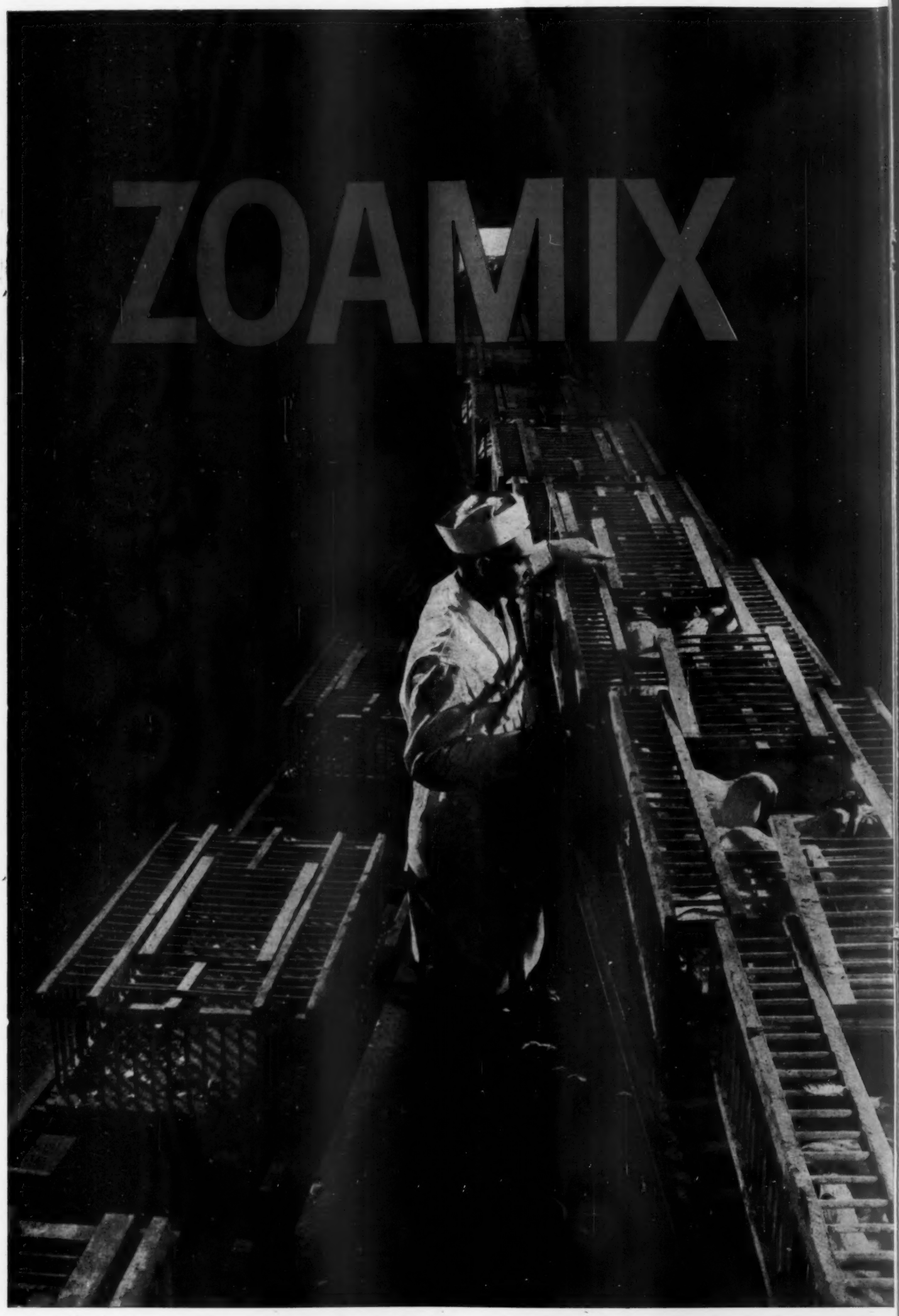
NEW only PAMCO unloads AND loads from the rear AND front!

PAMCO's Big Daddy . . . another PAMCO first . . . feeds more new profits to your bulk customers with the new PAMCO PROVEN front unloading and loading service. The Big Daddy combines PAMCO's proven auger system with the precision performance of a dual hydraulic system to deliver all types of feed including molasses feeds. Choose the PAMCO bulk delivery truck that best fits your needs . . . PAMCO Back Saver—or—Skoop Skipper with rear unloading AND loading—or—PAMCO Big Daddy with front unloading AND loading.

PAMCO PRODUCTIVE ACRES MFG. CO.
1404 S. 7th ST. OSKALOOSA, IOWA Ph. Orchard 3-2576
INSTALLATION AND SERVICE POINTS FOR BUYING OR SERVICE: Portland Ore. • East Grand Forks, Minn. • Oskaloosa, Iowa • Tulsa, Okla. • Dallas, Texas • Tupelo, Miss. • Franklin, Ky. • St. Paris, Ohio • Shelby, N. C. • Jefferson, Ga. • Bridgeville, Del.
BRANCH OFFICES: St. Paris, Ohio—Phone JUniper 3-6421 Jefferson, Georgia—Phone EMerson 7-8594
EXPORT OFFICE: 101 W. 31st St. New York 1, N.Y. CABLE: "HOLZDUF", New York

PAMCO BIG DADDY. Proven close tolerance of tubes and 9" floor auger, 12" upright auger and 9" boom auger. Exclusive front unloading AND loading. Smooth dual hydraulic system. Pellets handled with minimum breakage. Molasses feeds delivered with customer satisfaction.




ZOAMIX

Now... approved right up to market time.

With Zoamix® coccidiostat in the feed you sell, you offer broiler growers a definite plus. Growers need not substitute a second feed. No withdrawal time is required. And birds are protected right up to the time they are marketed.

Zoamix is also approved for use on replacement birds. Under moderate exposure conditions, immunity is normally secured at 14 weeks of age.

Zoamix permits maximum rate of gain and nutrient utilization. And it won't cause injury if accidentally fed to laying hens, other farm animals, or if moderately overdosed.

Zoamix has advantages for the feed manufacturer, too. It eliminates the need for stocking an array of specific products which only tend to confuse the customer and result in costly stock duplication for you. Zoamix is economical, quick and easy to assay.' There are no mixing or storage problems.

You'll make more profits . . . have fewer problems . . . more satisfied customers with Zoamix coccidiostat. For further information, and data to aid you in registration, write: THE DOW CHEMICAL COMPANY, Abbott Road Building, Midland, Michigan, Attn: Feed Industry Sales.

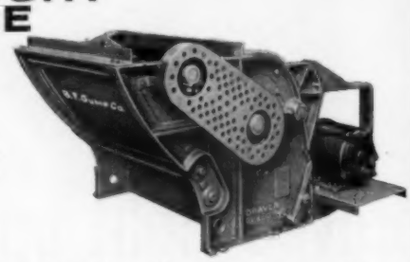
Free educational film. "Chemicals: Vital to Our Food Supply," a 22-minute sound and color story of the contributions of chemicals to mankind, is now available for screening or group showings. Film has many references to the poultry industry. For bookings, contact your Dow Feed Industry sales representative.

1-Minute test for Zoamix. Simple test enables serviceman to make on-the-farm or in-the-plant check for presence of our coccidiostat in feed. For further information, contact your Dow sales representative.

Polyethylene Boots. Disposable, polyethylene pull-on boots available to feed company servicemen. Helps prevent spreading disease and protects shoes. 25 pairs to a roll. See your Dow representative for details.

THE DOW CHEMICAL COMPANY DOW Midland, Michigan

JUST THE RIGHT FEED RATE



There's no choking or starving of process machines with a Draver Feeder to regulate feed

Hammer and attrition mills, sifters, dryers, and other process machines do their best—production-wise and cost-wise—only when fed at desired capacities—uniformly. With a Gump Draver Feeder to regulate the feed, you'll eliminate shut-downs caused by overfeeding, and minimize under-production brought about by starving your processing unit. With a Draver Feeder, each machine *can be kept at top production efficiency* and quality control will be simplified. Whatever your needs—small or large capacity, continuous or automatic batch system—we have the size and style Draver to suit your process machines. Write or call for details, without obligation.

B. F. GUMP CO.
1310 South Cicero Avenue, Chicago 50, Illinois
SALES AND SERVICE
New York 36—JABEZ BURNS AND SONS, INC.—600 W. 43rd Street
San Francisco 5—TEMPO-VANE MFG. CO.—330 First Street
Dallas 2—J. B. WILLIAMS—1026 Young Street

SYMPOSIUM PANEL—Panelists for the first Smith Lifeline Fish Products Symposium are shown above at the plant of J. Howard Smith, Inc., Port Monmouth, N.J. From left to right are: Dr. Leonard Dansky, Samuel Lipman Sons, Augusta, Maine; Dr. H. M. Scott, University of Illinois, Urbana, Ill.; Dr. Hans Fisher, Rutgers University, New Brunswick, N.J.; Dr. E. I. Robertson, John W. Eshelman & Sons, Lancaster, Pa.; Dr. Larry Ousterhaut, Bureau of Commercial Fisheries, College Park, Md., and Dr. Rollin H. Thayer, Oklahoma State University, Stillwater, Okla.

Proper Utilization Of Fish Meal Topic Of Firm's Symposium

PORT MONMOUTH, N.J.—Proper utilization of fish meal in feed formulation was the topic of the first Smith Lifeline Fish Products Symposium held at the plant of J. Howard Smith, Inc., here recently.

Speakers for the event included: Dr. H. M. Scott, University of Illinois; Dr. Hans Fisher, Rutgers University; Dr. Rollin Thayer, Oklahoma State; Dr. Leonard Dansky, Samuel Lipman Sons, Augusta, Maine, and Dr. Larry Ousterhaut, Bureau of Commercial Fisheries.

Dr. Scott spoke on "Maximizing the Utilization of Dietary Amino Acids" and stressed the point that feed formulations should strive not only to meet minimum amino acid requirements but should also attempt to balance protein sources in order to utilize excess amino acids properly, thereby increasing protein efficiency.

Dr. Fisher, speaking on "Amino Acids Balance and Imbalances," pointed out that imbalances can sharply reduce feed consumption, and that imbalances can be realized on high, as well as low, protein levels. The studies showed that imbalances are nothing more than uncomplicated amino acid deficiencies caused by improper balancing of protein sources, he said.

Dr. Thayer discussed his latest work on the amino acid requirements of turkeys and told of his achieving maximum gain and feed utilization with impractical rations. The optimal nutrient levels in such feeds were then used as series of bench marks for designing practical rations giving optimal results, he said.

Protein Quality

Dr. Dansky, speaking on "Protein Quality: Its Importance in Practical Broiler Rations," pointed out value of protein from fish meal in overcoming the effects of environmental stress. He also showed data on varying field responses with varying fish meal quality.

Dr. Ousterhaut, discussing "Amino Acid Availability and Fish Meal Quality," described his method for biologically evaluating fish meals. He also discussed data indicating that fish meals may vary in biological value but that these variations can be controlled by proper plant processing.

Included in the meeting's agenda was an ocean trip to watch the operation of the menhaden fishing fleet. Later a tour of the J. Howard Smith plant was conducted to observe the processing of fish caught that day.

C. M. Cubbage, president of J. Howard Smith, Inc., commented on the strides made by the Smith companies toward producing an improved and consistently high quality fish meal protein.

J. Howard Smith, Inc., and associated companies operate 10 menhaden fish processing plants extending from Amagansett, Long Island, to Sabine Pass, Texas, it was stated.

NEW ADDRESS

NEW YORK—H. J. Baker & Bro., Inc., New York, has announced that its address is now 733 Third Ave., New York 17, N.Y.

CHECKERBOARD GRAIN COMPANY
Buyers and Sellers of
MILLFEEDS, GRAINS AND GRAIN PRODUCTS
CHICAGO KANSAS CITY ST. LOUIS MINNEAPOLIS

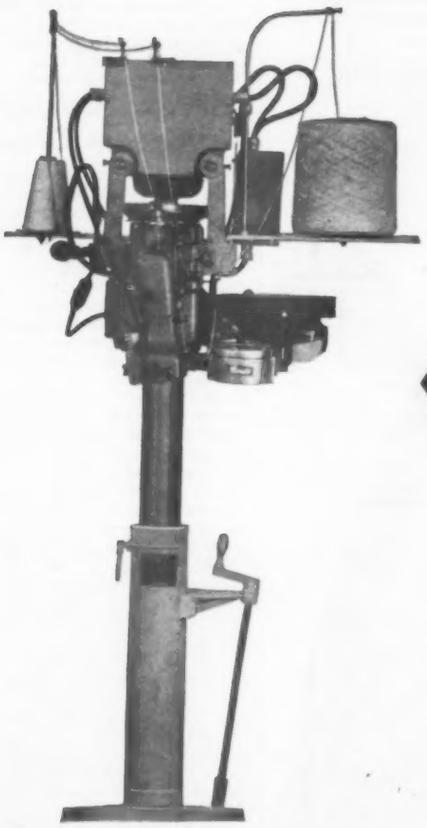
★ Buy and Sell Through WANT ADS ★

50 LBS. NET
MAYO'S NEW-IMPROVED SNOW FLAKE
PURE REEF OYSTER SHELL
100% usable
TRIPLE SCREENED · KILN DRIED
97% CALCIUM CARBONATE
MAYO SHELL CORP.
HOUSTON, TEXAS
MEDIUM

No Kidding
"SNOW FLAKE"
WILL GIVE YOUR REPUTATION FOR HANDLING QUALITY MERCHANDISE A BIG BOOST - - - -
THIS WE GUARANTEE
•
Write—Wire—'Phone for PRICES and SAMPLES
MAYO SHELL CORPORATION
P.O. BOX 784 HOUSTON 1, TEXAS TEL.: OR 2-9441

for complete nutritional service
call or write
Hoffman
Hoffman-Taff Inc.
Manufacturing Chemists
SPRINGFIELD, MO.
UN 5-2851

New! Automatic!



Bemis' new automatic Bag Top Printer assures you of clear, uniform printing above the sewing line of multi-wall paper bags as they are being closed. It has an amazing number of applications for your business.

Use it to print product codes, specifications, data for shipping and handling identification, commodity analyses, product packaging date. And you can take it from there.

Mounted on a Bemis sewing pedestal, the Bag Top Printer shown at left imprints a bag as it is being sewn closed. In operation, an attendant simply leads the edge of the bag into the printing guide. The bag is then coded. An actuator starts the sewing head to sew the bag. The thread is automatically cut when the bag leaves the sewing head.

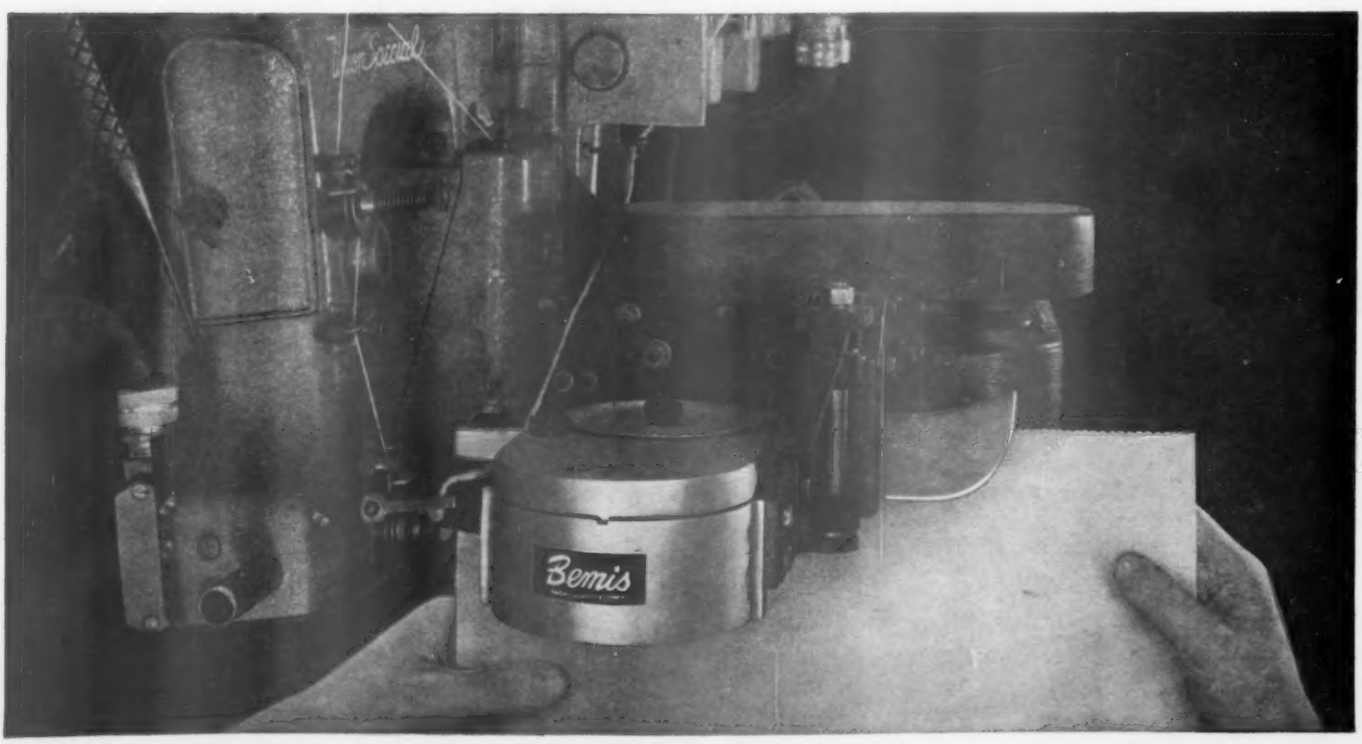
Power-driven, the Bag Top Printer uses a pre-inked roll that eliminates fluid inks, solvents, etc. Type, on a rotary print wheel, can be quickly changed.

For more information how a Bag Top Printer can help increase the efficiency of your packaging operation, just get in touch with us.

Bemis

where packaging ideas are born

General Offices:
111-F N. 4th Street,
St. Louis 2, Mo.



University of Florida:

Results of tests into the phosphorus requirement of the laying hen and to evaluate various phosphorus sources for use in poultry feeds indicate that dicalcium phosphate, defluorinated phosphate, and soft phosphate are satisfactory sources of phosphorus for the laying hen.

SOFT PHOSPHATE, INC.
media, pennsylvania

A Natural Research-Proven, Sensibly Priced Phosphate That Has Fortified More Than 100,000,000 Tons of Feed

Protein Blenders Has New Poultry Feeds

IOWA CITY, IOWA—Dr. Spencer Morrison, Protein Blenders, Inc., feed nutritionist, introduced the new B. P. poultry feeds during a two-day summer sales meeting in Iowa City recently.

The meeting was held at the University Athletic Club and was attended by all B. P. territory supervisors in Iowa and Illinois.

Dr. Morrison stressed improvements which have been incorporated in B. P. poultry feeds. B. P. representatives were schooled on poultry nutrition and management, as well as the future outlook for hog and cattle feeding.

C. U. Kelly, company president, in conjunction with Lloyd T. Cashman, general sales manager, outlined progress plans for the summer, fall and balance of 1961.

'Thibenzole' Adopted As Merck Trademark

RAHWAY, N.J.—Merck & Co., Inc., has announced the adoption of "Thibenzole" as the trademark for thiabendazole, which is described as a "new broad spectrum anthelmintic effective against a wide range of roundworms and other gastrointestinal parasites."

Discovery of the new drug by scientists of the Merck Sharp & Dohme Research Laboratories was announced last April.

Large-scale clinical trials of Thibenzole have indicated it is active against 13 different roundworm species infecting sheep and goats, including the important stomach and intestinal worms, Merck & Co. said. It is also being evaluated in swine, poultry and man, according to company officials.

In recent preliminary trials, Thibenzole has also shown promise against important parasites in cattle and horses, it was stated.

Change Headquarters For Oregon Event

CORVALLIS, ORE.—Following 19 years of using the Benton hotel here as headquarters for the annual Animal Industry Conference, co-sponsored by Oregon State University and the Oregon Feed & Seed Dealers Assn., the industry committee, headed by Bill Eggimann, Dairy Cooperative Assn., Portland, announced that it will move to the new Towne House Motor Inn in Corvallis for its 1962 event.

All business sessions, as in the past, will be held in Withycombe Hall, Oregon State University, but housing and the annual conference banquet will be at the Towne House.

The facility features 49 new and up-to-date rooms, a modern banquet facility adequate to handle the 125 persons who attend the event, and ample parking. In addition, some 25 rooms will be reserved for conference use at the City Motel, which is located directly across the street from the Towne House.

The 1962 conference is scheduled for Feb. 1-2 and Mr. Eggimann reports that at this early date two speakers have already accepted invitations to appear on the program. They are Dr. Leo C. Norris, department of poultry husbandry, University of California, Davis; and C. E. Lampman, head, department of poultry husbandry, University of Idaho, Moscow.

Dr. Norris is currently on a Fulbright lectureship at University of Sydney, Sydney, Australia. His appointment ends Dec. 1, after which he plans to travel to India, the Philippines and Japan before returning to the Davis campus around the middle of January.

Rate Boost Opposed

SAN FRANCISCO—The Sperry Operations of General Mills voiced a strong protest in recent Federal Maritime Board hearings on feed shipment rates of Matson Navigation Co.

Actually, the Sperry appearance during the San Francisco hearings was termed a side issue in the board's inquiry into Matson's request for a 10% rate increase in its Hawaiian trade.

Harry E. Rockwood, general traffic manager for Sperry, introduced the issue, explaining his firm decided to participate in the hearings only after Sperry saw it was impossible to secure reasonable rate relationships voluntarily from Matson. Sperry opposes Matson's rate relationships between bulk grain and feed shipments and the same commodities shipped in bags.

Matson officials, Mr. Rockwood stated, take the position that any adjustment in either bulk grain or manufactured feed rates must be considered as part of the current board hearings.

Make sure the fats in your feeds

are protected by Tenox antioxidants

With the wide variety of inedible fats and meat scraps being processed by renderers today, it is more important than ever that the fats and meat meal you buy be protected by the proper antioxidant.

Tenox antioxidants give you the safeguard you need. They preserve the vitamin content and nutritional value of your feeds, while keeping them fresh and palatable.

In recommending Tenox to your renderer, you are assured of receiving greases, tallows and meat meal of maximum stability. As the leading supplier of food-grade antioxidants, Eastman offers users the widest range available. Our long experience enables us to recommend not only the most effective formulation, but also the most efficient method of adding it.

If your renderer is not already using Tenox, it will pay you to call this to his attention. It's your best guarantee that your fat-containing feeds will win—and keep—satisfied customers. EASTMAN CHEMICAL PRODUCTS, INC., subsidiary of Eastman Kodak Company, KINGSPORT, TENNESSEE.

Tenox

Eastman food-grade antioxidants

High Degree of Integration Noted

ORONO, MAINE—The broiler industry in Maine probably is more highly integrated than in any other area.

This was pointed out by Frank D. Reed, poultry marketing specialist at the University of Maine, in commenting on the development and position of Maine's broiler industry in relation to that of other areas.

The comments came in connection with a U.S. Department of Agriculture report showing that Maine in 1960 produced some 54.1 million broilers with a live value at the farm of $37.4 million. Maine is 11th in the list of major broiler areas in terms of number of birds produced and 9th in gross value of product.

Citing the high degree of integration in Maine, Mr. Reed noted that five major processors control about 90% of the production. All five operators now own their own hatcheries, and the majority of breeding birds supplying hatching eggs are also owned by the processors with the birds being "farmed out" to producers under a contract arrangement. Three of the processors own their own feed mills, and the other two have custom mixing arrangements with feed manufacturers. The great bulk of the broilers is produced by growers under a contract arrangement whereby the grower receives a fee for growing the birds. All expenses, including fuel and litter, are paid for by the processor.

"The five processing plants are all large, modern and efficient," Mr. Reed said. "All the plants are under federal inspection for wholesomeness, and all are using the USDA grading service. Management on the farms, and supervision is of high quality. The product is recognized by the trade as top quality, and consistently commands a price premium on the markets. The product is mainly whole, eviscerated ice pack. The markets are New England and New York. Next to Delmarva it is the leading supplier of the New York City market.

"Costs of production in Maine are somewhat higher than in the southern broiler areas due to a feed cost disadvantage of about $5 per ton as compared to Georgia and about $8 per ton compared to Arkansas, which is probably the lowest cost area. Housing costs and fuel expense for brooding are also higher."

But, Mr. Reed adds, the Maine climate is conducive to rapid growth in chickens, and the quality of Maine poultry has long been recognized as high. Maine also enjoys an advantageous location with respect to markets being close to Boston, and within overnight hauling distance of New York.

"The competitive situation in the broiler business is, however, becoming increasingly severe, and Maine's future in the broiler business hinges upon our ability to maintain a quality edge and premium price for our product, and to further improve our efficiency of production," Mr. Reed said. "Some reduction in our present feed cost disadvantage through the inauguration of water transport of grain, or through a reduction in rail rates on grain from the Midwest is a future possibility which will help improve our position, not only in broilers, but in market eggs."

SELLIN' SAM **By Jim Zilverberg**

"It's a company car, isn't it? Well, you've got company!"

Layer Feed Formula Change Announced

WEST SPRINGFIELD, MASS.—Eastern States Farmers Exchange recently made a formula change "to meet better the calcium requirements of superior bred layers," according to Alson Brown of the feed division. He announced that the cooperative's Cashmaker poultry feed now contains 3% calcium.

Today's better bred laying hens, he said, could not meet their calcium requirements during the summer months by free choice intake. Summer weather presents particular calcium problems for laying flocks because the birds tend to eat less. However, he added, the standard of 3% calcium in the feed is not intended to be merely a summer formula change. "The problem of getting adequate calcium through free choice exists throughout the year," Mr. Brown said. "The 3% should promote efficient calcium usage by laying flocks the year around."

"Your replacement-flock coccidiostat should do 3 things..."

1. **Permit Development of Immunity**
2. **Minimize Intestinal Damage**
3. **Reduce Coxy Outbreaks**

GlyCamide qualifies as a top coccidiostat on all three counts...and offers you two vital "extras": ***safety*** and ***economy.***

GlyCamide is the ***safest*** coccidiostat ever developed for replacement flocks.

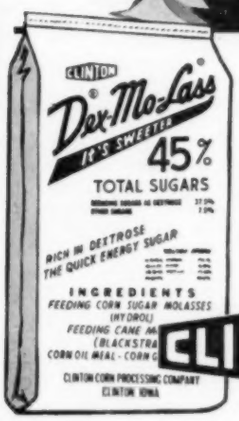
GlyCamide is the ***most economical*** coccidiostat you can use in rearing replacement chicks for laying or breeding flocks. Merck Chemical Division, Merck & Co., Inc., Rahway, New Jersey.

GlyCamide® MERCK

with **THE MERCK MARGIN OF SURETY**

®TRADEMARK OF MERCK & CO., INC., FOR GLYCARBYLAMIDE.

Livestock really "live-it-up"
when you feed Dex-Mo-Lass
IT'S SWEETER



MOLASSES-RICH—made from highly nutritious ingredients: Feeding Corn Sugar Molasses (Hydrol), Feeding Cane Molasses (Blackstrap), Corn Oil Meal, and Corn Gluten Meal. **BONE-DRY**—flows freely in hottest or coldest weather. Packed in 50-lb. moisture-resistant bags. SUGAR-SWEET—makes any animal ration more palatable; steps up feed and water consumption for bigger gains.

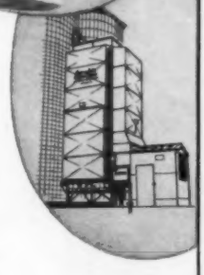
DOUBLY-USEFUL—highly nutritious in rations for all farm animals; scientifically formulated to preserve the quality of silage.

CLINTON

CLINTON CORN PROCESSING COMPANY
CLINTON, IOWA

GET FASTER THROUGH-PUT HIGHER EFFICIENCY

With AEROGLIDE Soybean Drying



You can now have exacting bean-to-bean moisture control and hold consistently to those levels for peak plant efficiency and capacity. For makers of 50% protein meal this means highest efficiency in meal and hull separation, with minimum loss of oil in hulls.

Positive moisture control is possible because of much longer retention and deeper penetration in both drying and cooling sections, and at lower temperatures. This control, in turn, lets you get superior results in solvent extraction in both quantity and quality of oil produced as well as better protein control.

AND . . . don't overlook *these* money-making advantages of an Aeroglide Drier.

- Take in soybeans when prices are "right" — providing a continuous local market for beans at any moisture level.
- Store and ship safely for *short or long* periods — *with absolute minimum moisture pickup.*

Make a date to discuss the easy ownership and true economy of drying with an Aeroglide and reap the profits of our experience in the soybean industry.

Visit Booth No. 25
ASA Convention, Indianapolis

PLANTS & OFFICES
Emporia, Kansas — Aeroglide St. & South Ave. — Phone Dickens 2-1845
Raleigh, N. C. — 510 Glenwood Ave. — Phone TEmple 2-6422
Cable: Aeroglide

Aeroglide Corporation
CLIMATE CONTROLLED DRYING

Relative location of mill, farm store and office of Farmers Elevator Cooperative, Green Valley, Wis., are shown in this picture.

When New Mill Was Erected, Wisconsin Firm Made Good Use of Its Old Machinery

By Al P. Nelson
Feedstuffs Special Writer

When the Farmers Elevator Cooperative, Green Valley, Wis., decided to modernize its mill a year ago, it had a problem: What was to be done with the old, but still operating machinery, housed in the elevator section of the plant.

Management finally decided to erect a 45 by 85 ft. mill adjoining the elevator with access from one to the other. In the new mill was installed a Strong-Scott hammermill, a 2-ton Strong-Scott horizontal mixer and a 1-ton Strong-Scott mixer, plus molasses attachment. In addition, the firm installed six wooden bins, each with a capacity of 45 tons.

The older equipment, consisting of an attrition mill, a 1-ton Strong-Scott, is still used by the firm, says manager Alvin Berg, to help on rush days. This older equipment is all right for small orders. Together, the two sets of machinery enable the concern to give good service to farmers in the area.

25% Increase

The result of the $48,000 modernization program has been a 25% increase in grinding and mixing, says Mr. Berg.

"We also use the older mixer to mix brome grass with oats," says Mr. Berg. "We have quite an oats cleaning business and have a Clipper cleaner and a Slurry treater to handle this. This cleaning equipment is in the older mill section. We feel that we can make profitable use of the old machinery many times during the year."

This firm sells a great deal of dairy feed. Since some farmers bring in grain for grinding once a week, this keeps the mill very busy. As yet most of the farmers like to get their feed in bags. For whatever bulk feed is sold and delivered the firm uses a flat bed truck.

Along with many feed men in this section of Wisconsin, the Farmers Elevator Cooperative is using the Grist-O-Matic metered grinding charge system. Grinding charges are based upon the amount of electric power used for each grinding order. This runs the grinding charge to

Alvin Berg, manager, shows customer heating lamp in modern farm store. Business has increased steadily because stocks of products are varied and ample, and new items are ordered for display when demand for them is indicated.

A weigh buggy is used here to draw off ingredients from six new wooden bins in mill of Farmers Elevator Cooperative at Green Valley, Wis.

Farm store of Green Valley, Wis., firm, built in 1956, has two identical entrances and "fronts," one on either side of the building. Alvin Berg, manager, says this farm store accounts for about 22% of Farmers Elevator Cooperative's total volume.

about 8¢ per bag for coarse, and 15¢ per bag for fine, says Mr. Berg.

The mill also has an Eagle 75 hay chopper which is used quite a bit for hog and poultry feed in this region. The chopping charge is 15¢ per bale, then as the chopped material goes into the mill there is an additional grinding charge.

"We offer a pickup grain service," says Mr. Berg, "and quite a number of farmers like it. We charge $3 minimum pickup, plus $2 ton for every ton over three tons. If a man buys $100 worth of feed he gets $1 ton discount off the pickup and delivery charge. We have no cash discount."

The cooperative has a branch mill at Pulcifer, Wis.

Other Business

The firm also sells bulk oil. The man in charge of outside sales on oil also sells feed to farmers, and thus he has two products to sell on each call. Mr. Berg ties in with such outside work by inviting dairy, hog and poultry customers to special meetings at the store or at a hall in town. At such meetings special types of feed are discussed and a question and answer period held. In this give-and-take discussion, many customers find solutions to their special feeding problems, Mr. Berg reports.

"We hold from four to five such meetings per year, as the need arises," says Mr. Berg. "We try to schedule them at a time when farmers aren't overworked with seasonal jobs. That makes for a better attendance and more interest. We emphasize cost figures very much, showing farmers how good feeds can lower their production costs."

Operated in conjunction with the feed mill is a 376-box food locker plant. The feed mill charges farmers a rental fee of $6 per year for a pull out drawer type of locker and $5 for a box type. The firm also has a man who cuts meat for farmers, wraps and freezes it ready to store in the locker boxes. Usually the farmers butcher their own cattle and pigs and bring the meat in whole carcass or sectioned.

"We break even on this locker service," says Mr. Berg, "but it certainly ups our traffic. Some of these farmers visit their locker boxes every week. Each time they come here they find it convenient to buy feed or some other product. Traffic is what you want in a place like this. That's when you have an opportunity to tell the farmer your feed story."

Farm Supplies Store

Another traffic building feature at this cooperative is a 46 by 48 ft. farm supplies store built in 1956. This well planned, neat, attractive store has ceiling-to-roof glass windows at the east and west entrances. In fact, each side mentioned has a separate entrance. This makes it convenient for farmers to get into and out of the store. It also means that displayed merchandise can easily be spotted by customers and prospects.

Mr. Berg reports that this farm store accounts for about 22% of the firm's total volume. The display islands—six of them—were built by a local carpenter. They are of birch wood and have two to three shelves. They are 4 by 8 ft. size.

The variety of stock on hand affords an idea of why so many townspeople and farmers like to come here.

The stock includes paints and varnishes, waxes, electrical supplies, light fixtures, builders' hardware, barn and yard tools, water tank heaters, cabinet hardware, drills, wrenches, lawn goods, curing salt, livestock and poultry remedies, nails, bolts, coveralls, caps, gloves, power tools, barn ventilators, garden tractors power mowers pump oil, motor oils, electric fence, oil filters, refrigerators, water heaters, electric motors, electric fence, polyethylene film, aluminum doors, welders, sprayers, milkers' supplies, V belts, filter discs, wheelbarrows and wooden table legs.

The store is large, light and displays are well kept.

"We make a lot of sales here," Mr. Berg says. "We keep up our stocks, watch for new items farmers want. Our sales volume from this farm supplies store is going up gradually each year."

DeWitt Industries Plans 'Poultryrama' Event

ZEELAND, MICH.—DeWitt Industries, Inc., has announced an industry-wide "Poultryrama" as part of its 25th anniversary celebration, according to Richard A. DeWitt, president.

"Poultryrama," set for Aug. 14-19, is designed to give poultrymen an opportunity to see the corporation's progress during the past 25 years, and to see some of the newest and most popular products.

DeWitt Industries, Inc., which includes the Big Dutchman Automatic Poultry Feeder Co., the Zeeland Hatchery, a poultry processing company, a feed company, and several special breeding companies, also operates foreign branches with manufacturing plants in The Netherlands and Germany, and an international office at Chur, Switzerland. The company also has a Dur-A-Frame Steel Truss division and a new hog equipment division.

A special 500 by 50 ft. Dur-A-Frame building, which will house displays from all the companies during the open house, is presently under construction on the company grounds in Zeeland.

The week-long event, which will highlight a corporate growth from a one-incubator chick hatchery in 1936 to the industry that it is today, is expected to draw thousands of visitors from the poultry industry and related fields.

Tours through DeWitt's Hatchery will be a daily feature.

SOYBEAN SUPPORT

OTTAWA — Ontario-grown soybeans will be supported at $2.13 bu. during the 12-month period July 1 this year to June 30, 1962, Alvin Hamilton, agricultural minister, announced. Last year's support price was $2 bu.

Complete Cereals Processed Specially for Pet and Small Animal Foods

★ TOASTED CORN FLAKES ★ KIBBLED CORN
★ TOASTED WHEAT FLAKES ★ KIBBLED WHEAT
★ CORN GRANULES ★ KIBBLED PREMIXES

(Straight or Mixed Shipments)

Carloads — Truckloads — LCL — LTL

LAUHOFF GRAIN COMPANY

PHONE HI 2-1800 — *Cereals of Quality Since 1862* — Danville, Illinois — TELETYPE 7261

★ Buy and Sell Through WANT ADS ★

Newest of the NEW! ... from BAKER

THE Scotchman LINE

FEED BODIES THAT MEET ALL INDUSTRY NEEDS.

Compare! You'll find that one of the five new Scotchman feed body models was designed to meet your exact requirements! Each model is the result of superb engineering and manufacturing skill developed by Baker over almost half a century. Every Scotchman offers you more body for the money! More useful services . . . longer life . . . faster operation . . . more profit possibility! Go Scotchman . . . and save. Mail coupon for complete details!

World's Largest Distributor of Specialized Truck Equipment
Plants: Charlotte, N. C., Pottstown, Pa., Richmond, Va., Columbia, S. C.

BAKER EQUIPMENT ENGINEERING CO.
Shop Road, Columbia, South Carolina

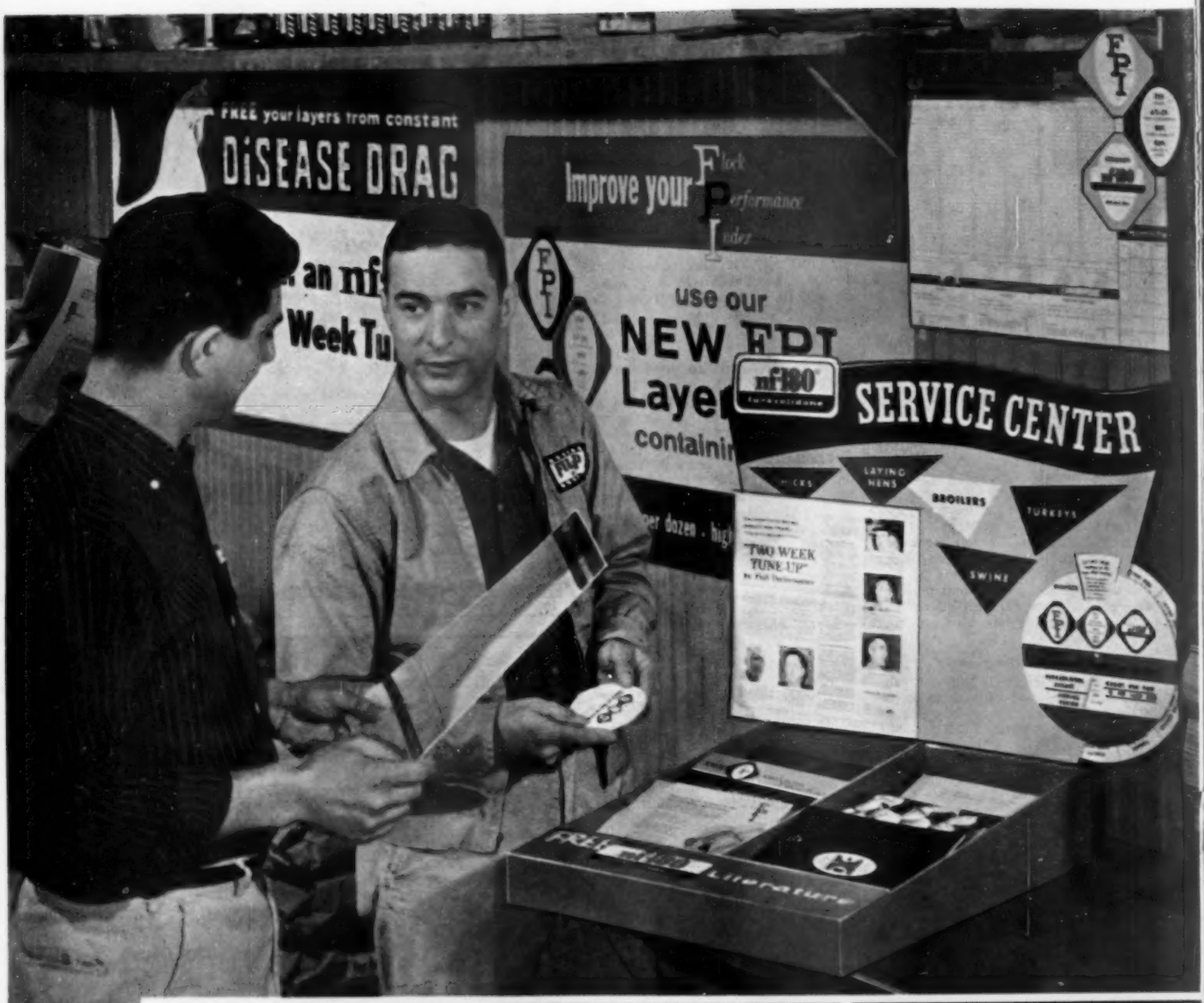
Send FREE COPY of Baker Scotchman Line Catalog File No. FS-9

NAME_____ TITLE_____

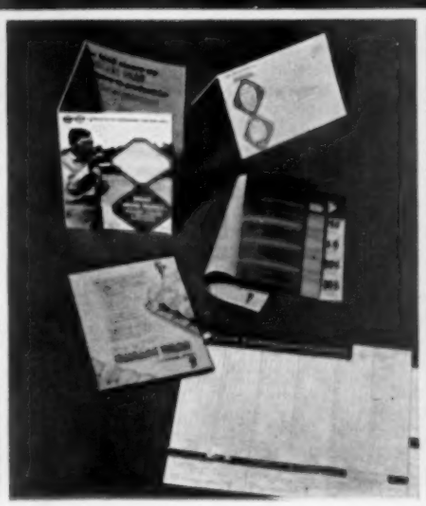
COMPANY_____ ADDRESS_____

CITY_____ ZONE_____ STATE_____

Yes, We Invite Dealer Inquiries.



Feed store display materials and service-helps for poultrymen attract attention, build up interest in nf-180 feeds



Factual, informative hand-out pieces give customers the complete nf-180-FPI story . . . a sound story that sells feed.

This full-color sound-slide film — "The Margin of Difference" — is the real clincher in selling nf-180-FPI feeds.

FPI PROMOTION turns nf-180 results into higher layer feed sales

Here are two "sales-practical" reasons nf-180-in-your-feed helps you build layer feed tonnage.

The first — and most important — reason is nf-180 itself. A continuous low level of nf-180 enables layers to utilize the full nutritional power of your feed. Helps your feed boost egg production . . . improve feed efficiency . . . reduce mortality. In fact, nf-180 usually makes such a noticeable improvement in flock performance that many feed men use nf-180 "booster" feeds in split flock tests to demonstrate feed superiority to new customers.

nf-180 improves feed performance by freeing layers from *constant disease drag* — the relentless subclinical infections scientists say are present in every layer flock. Only nf-180 gives such effective protection against these countless low-level infections because only nf-180 is effective against so many poultry diseases. *nf-180 controls more poultry diseases than any other drug.*

The second reason for nf-180's growing popularity with feed men is the FPI (Full Performance Index) promotional program. This sound selling program enables feed dealers to completely and effectively tie-in with nf-180 magazine and radio support — which was named one of the 10 best agricultural advertising campaigns of 1960. But more important, this advertising produces results.

To see just how effectively nf-180 advertising helps you sell feed, check the chart below. It shows the results of a farm magazine survey of 1,100 feed dealers in 11 states. 55.7% of all dealers answering said they received *direct inquiries* from nf-180 ads. Of the dealers reporting the *actual number* of inquiries, 23.9% said they received from *11 to 50*. The overall average was nearly 9 inquiries per dealer. One dealer wrote, "This is the most effective advertising we have seen for many years. It really has brought customers to the mill." Another said, "They come in the store with ad in hand." Results like these can be yours.

See your Hess & Clark salesman for full details.

an example of nf-180-FPI selling effectiveness — a farm magazine survey of feed dealers in 11 states

	Have any farm people mentioned seeing these nf-180-FPI advertisements?		Have your sales of feeds containing nf-180 increased this year?		Have you developed any prospects for future layer feed sales?		Have you had any nf-180-FPI materials on display in your store?	
	YES	NO	YES	NO	YES	NO	YES	NO
Iowa	61.8%	38.2%	66.3%	23.6%	52.8%	12.4%	91.0%	9.0%
Illinois Indiana	57.0%	40.0%	63.0%	25.0%	58.0%	12.0%	90.0%	9.0%
Minnesota North Dakota South Dakota	59.4%	37.6%	64.3%	18.8%	51.5%	20.8%	80.2%	19.8%
Wisconsin	37.8%	58.9%	40.0%	42.2%	35.6%	22.2%	78.9%	18.9%
Missouri	66.7%	33.3%	70.7%	19.5%	74.4%	7.7%	88.1%	11.9%
Nebraska	56.7%	43.3%	63.4%	23.3%	60.0%	23.3%	60.0%	20.0%
Ohio	55.5%	44.5%	72.8%	18.4%	58.2%	17.3%	79.5%	20.5%
Kansas	45.5%	54.5%	50.0%	25.0%	40.0%	15.0%	78.3%	21.7%

Where percentages do not total 100%, some dealers did not know or didn't answer.

Informative nf-180 ads **sell** readers . . . bring **real prospects** to your store, buyers who want full information on nf-180.

The only better proof of nf-180's feed-selling effectiveness is to see the results yourself — in your own store.

HESS & CLARK
ASHLAND, OHIO
Division of Richardson-Merrell Inc. NT-1-3

Feed Service BULLETIN BOARD

IDEAS TO HELP YOUR CUSTOMERS

'Summerized' Laying Houses

The University of Georgia poultry department has advised commercial egg producers that they should prepare their laying houses for further hot weather this season.

Georgia poultry specialists list the following ways in which hens can be given some relief from the summer heat:

(1) Whitewash (see formulas below) tarpaper roofs. Whitewash or paint metal roofs with white or aluminum paint.

(2) Keep grass growing and properly cut around poultry houses, as the grass absorbs heat and reduces the amount of heat reflected into the house.

(3) Remove all old litter and add only 2 to 3 in. of new litter, as built up litter gives off heat and too much new litter keeps the birds from getting the benefits of the cool floor.

(4) Trees are desirable but keep all limbs cut off below roof level.

(5) Roof insulation may be desirable. More experimental data is needed before accurate recommendations can be made.

(6) Open poultry houses on all sides and keep weeds cut for good air circulation.

(7) Open roof ventilators.

(8) Remove all solid walls between pens and replace with wire partitions.

(9) Fans may be of some value but should not be depended upon to reduce the air temperature inside the house by an appreciable amount.

(10) Sprinkling the roof will help reduce the temperature inside the house.

(11) Fogging the air inside the house will help keep the birds more comfortable.

(12) Have the nests well ventilated, but as dark as practical to help prevent pickouts.

(13) Provide at least 12 ft. of watering space (one trough 6 ft. long, open on both sides) for each 100 hens and keep the water cool.

(14) Provide roosts so air can circulate around hens at night.

The formula for whitewash for tarpaper roofs is: 12 lb. salt, 6 oz. powdered alum, 1 qt. molasses, 50 lb. hydrated lime and 6 gal. water. The formula for metal roofs is: 3 lb. animal glue (available from building supply dealer), 50 lb. hydrated lime and 6 gal. water.

◆

Advantages of 'Haylage'

"Haylage" or low moisture silage compares well with conventional hay and silage as a roughage for dairy cattle, Dr. H. J. Larsen and R. F. Johannes of the University of Wisconsin reported at the recent meeting of the American Dairy Science Assn. held on the University of Wisconsin campus.

Haylage, they pointed out, is stored at about 50% moisture, not as dry as hay and not as moist as silage. It is not dry enough to store in barns and it's too dry to permit the chemical changes that preserve silage, they added. For the tests, haylage was stored in a commercial steel and glass airtight silo, the two researchers stated.

The two men reported that cows getting haylage consumed a little more dry matter and produced a little more milk than those on rations where hay and grass silage were the roughages.

Daily milk production was 44 lb. for the hay and silage cows, 49 lb. for those getting haylage. Dry matter intake averaged 35½ lb. per day for the hay and silage cows and 38½ lb. daily for the haylage cows.

The research men fed the roughages with two different simple concentrates—a corn-oats mixture and ensiled ear corn. The type of concentrate feeding didn't make much difference in milk production or dry matter intake, they said.

Cows stayed at about the same weight during the 112 days of testing, the research men said.

Dairymen have been showing a lot of interest in haylage, the two men stated. Cows like it and produce well on it, eating more than they would of similar high moisture silage. Also, cows don't seem to crave dry hay when they're getting haylage. When a farmer feeds regular silage, he also needs to feed some dry hay. Feeding a single material is often the most convenient method—especially when the roughage feeding set-up is mechanized, the researchers said.

Sometimes regular grass silage has a bad odor. Also, silage freezes in the silo during cold spells and it's hard to feed. These aren't problems with haylage.

Though the primary interest in these tests concerned the performance of cows getting haylage, Dr.

Fleischmann's F·I·D·Y
IRRADIATED DRY YEAST
RICH IN VITAMIN D FOR FOUR-FOOTED ANIMALS

A Preventive with DOUGLAS Protects Grain

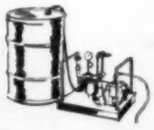
1 Preserves WHOLE Profit

PROTECKOTE prevents ANY loss from insect infestation.
Douglas Proteckote gives you maximum earnings. Keeps insects OUT of clean grain so they CAN'T eat ANY of your money. Proteckote does double duty because it serves as a FUMIGATION when applied... and also acts as a PROTECTANT for months and years more to come.

PROTECKOTE Doubles and Re-Doubles your PROTECTION

Here's How

Prevents ANY Loss from insect infestation and gives maximum earnings.
Ready to use. No mixing problems or lost labor.
Objectionable odors are eliminated. Proteckote is stabilized.
Turns loss into profit by stopping infestation before it starts.
Eliminates accumulation of dead insect and fragment count.
Contains not one but the two best protectants... Actually REPELS insects.
Keeps insects out of clean grain a full year and sometimes much longer.
Offers Low cost protection for your stored grain.
Takes the place of initial fumigation thus saving you money.
Efficiency assured by easily controlled, direct reading application unit.



Applying Douglas Proteckote adds no water to your stored grain... helps maintain minimum moisture.

DEPEND ON 45 YEARS OF GRAIN PRESERVATION DOUGLAS

Contact your Douglas Representative today to find out more about the very finest Preventive Maintenance program to protect your grain and PROFIT.

Larsen and Mr. Johannes pointed out that all these rather simple rations supported good milk production without loss of weight.

◆

Fighting Leucosis

The leucosis complex, called one of the most common of the lesser understood poultry diseases, is noted frequently in chickens and is being found more frequently in turkeys, according to Dr. Chester Meinecke of the Texas A&M School of Veterinary Medicine.

Dr. Meinecke says that leucosis is actually a group of neoplastic diseases caused by a group of viruses.

How may a flockowner fight against leucosis? To date, there has been no effective vaccine developed, says Dr. Meinecke. The flockowner can, however, make use of two principles which are involved in the control of any disease. These are based on intensity of exposure and natural resistance.

It appears that exposure during the first three weeks of the bird's life is far more damaging than at any other time, he said. A good program of strict sanitation and isolation from the hatchery through early life will therefore reduce the incidence of leucosis in a given group of birds, Dr. Meinecke commented. This sounds very simple and it is, but very few flockowners fully appreciate what that statement includes. Isolation means that mature birds should be far enough away from young birds to reduce the possibility of virus transmission by man and animals to a minimum. In fact, no equipment, feed or water should ever be carried from old to young birds, warns Dr. Meinecke.

Since even the best husbandry is not sufficient to prevent exposure of flocks to the virus, resistance must be considered as a means of control. Experimental results show that certain birds within a strain or group of birds have more inherited resistance to leucosis than other flocks. Using these birds as breeders, and taking care to hatch and brood the chicks in isolation would tend to produce resistant chicks.

Dr. Meinecke points out that no one has all the answers to the leucosis problem, but he does suggest contacting a veterinarian or county agent if there are further questions.

◆

Cool Hogs, Better Gains

Most swine producers have observed that during the hot summer days growing hogs tend to eat less and seem to gain at a slower rate, according to G. R. Carlisle of the University of Illinois department of animal science.

Mr. Carlisle pointed out that work at the University of California Experiment Station has shown how extremely high temperatures can add to the cost of gain. Hogs that were nearing market weight were kept in rooms that were constantly maintained at either 100° or 70° temperature. The hogs in the 100° rooms required four times as much feed as the ones in the 70° rooms, according to the California reports.

Mr. Carlisle said that the 100° rooms were more severe in condition than would be found on any Illinois farm. But, he added, the results point out the importance of keeping the hogs as comfortable as possible in hot weather.

He gave the following suggestions for keeping hogs cool in summer:

(1) Provide at least 6 sq. ft. of shade per hog. On pasture, running the long axis of a rectangular shade north and south will help to reduce dust under the shade.

(2) Provide plenty of drinking space—at least one cup for every 20 hogs.

(3) If hogs are on concrete, provide a mist sprayer that can be turned on when temperatures are over 75°.

(4) On pasture, sanitary wallows should be located in the sun, not the shade. They are particularly useful for older breeding stock.

◆

Feeding Cows More

Good results among Michigan dairymen suggest feeding good cows grain to the limits of their diets, according to Michigan State University dairy scientist Dr. C. F. Huffman.

He says that the increased production should more than pay for the cost of the extra feed.

Dr. Huffman commented that many dairymen do not feed larger grain rations because they believe it will cause mastitis and udder edema. However, he pointed out that many experiments have shown this is not so. He said that Michigan State experiments have included feeding cattle up to 17 lb. of cottonseed meal a day without harmful effects.

With present favorable prices of milk and grain, he said that a dairyman could experiment and find out which cows will produce more with the added grain.

Walter J. Charnley Dies in Omaha, Neb.

OMAHA, NEB.—The man largely responsible for puffed breakfast cereals died here after a three-year illness.

He was Walter J. Charnley, 78, a familiar figure in the milling industry since the turn of the century.

Mr. Charnley was president and general manager of the Puritan Manufacturing Co. here, which fabricated milling equipment for mills. He helped organize the firm in 1927.

Maintenance Program PROTECKOTE Profits 2 Ways

2 **Prevents Losing ANY Profit**

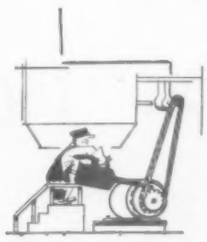
Fumigation merely minimizes your loss AFTER damage.
Every time you have to fumigate, it's already too late for maximum profits because insects have ALREADY EATEN SOME OF YOUR MONEY. In addition your grain has an increased dead insect and insect fragment count.

Douglas PREVENTIVE MAINTENANCE STOPS Infestation BEFORE It Starts

You practice Preventive Maintenance on your mill machinery because you know that **avoiding trouble** costs much less than repairing damage. A few drops of oil . . . can protect you against a big repair bill.

PREVENTIVE MAINTENANCE MAKES SENSE WITH STORED GRAIN TOO.

PROTECKOTE { PREVENTS profit losses from accumulated grain damage.
MAINTAINS grain in top market condition for a full 12 months (and in many cases much longer.)



An ounce of Prevention is worth a pound of Cure

Depend on

Douglas CHEMICAL COMPANY
620 East 16th Avenue, North Kansas City, Missouri

FREE Grain Inspection
I want professional assistance with grain sanitation. Have your specialist contact me, without obligation.

Name_____
Company_____ Title_____
Address_____
City_____ State_____

5 REASONS TO BUY CLEVELAND VIBRATORS

1 They save you money.
Cleveland Vibrators guarantee a full flow of feed every time your bins are opened.

2 They will not damage your bins.
A properly mounted Cleveland Vibrator will not damage or weaken your bin or its supports.

3 The initial cost is low.
An air or electrically operated vibrator will cost you between $42 and $176, depending on bin size, complete with mounting brackets and control accessories—fob. Cleveland.

4 They are inexpensive to operate
Cleveland Vibrators operate only when your chutes are open.

5 They are easy to install.
Any good mechanic can mount a Cleveland Vibrator in a couple of hours.

Write for your catalog and price list today.

THE CLEVELAND VIBRATOR CO.
2793-71 Clinton Ave., Cleveland 13, Ohio

Always in Your Profit Picture

PILOT BRAND OYSTER SHELL

PILOT BRAND Oyster Shell is a profit maker every month in every year. There's never a slack season.

That's because poultrymen everywhere depend on PILOT BRAND to help them get more eggs with stronger shells.

Dealers, coast-to-coast, know that it pays to stock and promote PILOT BRAND, the largest-selling eggshell material in the world. You can always count on PILOT BRAND for quick, easy sales and good, steady profits. And we help you with consistent, hard-selling national advertising in leading farm and poultry publications and on more than 70 radio stations.

PILOT BRAND OYSTER SHELL FOR POULTRY

Oyster Shell Products Company
Subsidiary of Southern Industries Corporation
Mobile, Alabama

FEED CONTROL COMMENT

By BRUCE POUNDSTONE
Secretary, Association of American Feed Control Officials
Kentucky Agricultural Experiment Station, Lexington

What's in a Name?

What is the name, brand name or trademark of a feed? The annual publication of the Association of American Feed Control Officials is not entirely clear on this point. It is evident that some in the trade and feed control circles may not be clear either.

Section 3, paragraph (g) of the Uniform State Feed Bill as published on page 11 of the official AAFCO publication reads as follows: "The term 'brand' means the term, design, trademark, or other specific designation under which an individual commercial feed is distributed in this state."

Under "Rules and Regulations" on page 18 of this publication will be found the following:

"1. Brand and Product Names

(a) The brand or product name must not be misleading. If the name indicates the feed is made for a specific use, the character of the feed must conform therewith. A mixture labeled Dairy Feed, for example, must be suitable for that purpose."

Synonymous?

One of the reasons why this is not entirely clear in the official publication is the use of the expression "brand or product name." To some this has been interpreted as meaning that the brand name and the product name are or may be synonymous.

Listening to discussions on this point, both on the part of industry and control officials, some considered brand and product name as synonymous. If for no other reason than the matter of legal interpretation, any question here should certainly be cleared up. If this involves a rewording of either of the two statements mentioned, then such rewording must be done.

Can brand and product name be used interchangeably? A brand usually refers to a range of products. Are not Quaker, Nutrena, Checkerboard, etc., examples of brands? A brand may not be registered as a trademark, but if it is then it becomes a trademark as well as a brand.

A brand or trademark must then be qualified by product names which designate specific products, differentiating them from each other although sold under the same brand. The full name of the feed would then be a combination of the brand and the product designation. "——— dairy feed" in this sense would be the full designation of the feed. The ——— would supply the brand and the word dairy would designate it as a feed of a special type.

A Question

Is it possible to have a product name without having a brand name or trademark? Someone might make a hog feed. Unless it was designated as John Doe's Hog Feed, one would not have enough information to distinguish this feed from all other hog feeds. So in a strict sense it would appear that every name of a feed consists of a brand on the one hand and a further designation as to product, and the complete designation becomes a combination of a brand name and a product name.

With the emphasis being placed upon definitions by the definitions committee of the Feed Production School, it is quite appropriate that questions of this kind are coming up and we hope can be solved at other meetings of groups of industry people and control officials. Any ideas along these lines will be welcome.

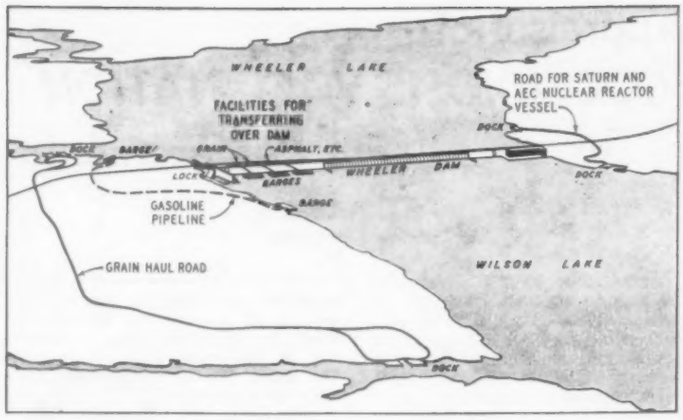
Superior milk producer

Nutritionists recognize corn gluten feed as a superior milk producer. Buffalo Brand has been a standard in the feed industry for more than 60 years. To get top milk production, make sure your dairy rations include Buffalo Brand Corn Gluten Feed.

BUFFALO®
CORN GLUTEN FEED

CORN PRODUCTS DIVISION
CORN PRODUCTS SALES COMPANY

FARM BUREAU MILLING OFFICIALS—Maynard Brownlee, Farm Bureau Services, Inc., Lansing, Mich., is the new president of the Farm Bureau Milling Co., Hammond, Ind., the production unit for feeds distributed by three cooperatives. Mr. Brownlee succeeds Harry Truax, who retired as president of the board of directors of Farm Bureau Milling, and also as head of the feed and poultry department of the Indiana Farm Bureau Co-op. (Feedstuffs, July 8) Mr. Brownlee is pictured here with other new officials of Farm Bureau Milling. From left to right in the first row are: Clifford Bass, Wisconsin Farmco Service Cooperative, Madison, director; Ivan Moore, Indiana Farm Bureau Co-op, vice president; and Owen Haffner, Wisconsin Farmco Service Co-op, secretary-treasurer. Left to right in the second row are: William Justice, Indiana Farm Bureau Co-op, director; Mr. Brownlee, president; and Martin Garn, Farm Bureau Services, Inc., Lansing Mich., director. Farm Bureau Milling Co. is owned by the three state cooperatives—Wisconsin Farmco Service Co-op owns 13.65% of the stock, Michigan Farm Bureau Services owns 22.29%, and the Indiana Farm Bureau Co-op owns 64.06%. Production in 1960 was 156,000 tons.



EMERGENCY MEASURES—This drawing prepared by the Tennessee Valley Authority shows the variety of emergency measures being placed in service to circumvent Wheeler Dam's only lock, which collapsed June 2 and may require a year or more to reconstruct. The lock, with its collapsed landward wall, is at the left (north) end of the dam, while at the extreme left is a roadway for truck transshipment of grain. Nearer the dam are pipelines for liquid commodities. Just to the right of the lock may be seen barges arranged above and below Wheeler Dam for the transfer of grain and liquid products. At far right is the overland route for a booster for a rocket to be fired at Cape Canaveral, Fla., and for an Atomic Energy Commission vessel.

Variety of Emergency Measures Used at Dam

ST. LOUIS—A variety of methods and devices for bypassing the collapsed Wheeler Dam lock on the Tennessee River are described in a current issue of the Waterways Journal. These emergency steps, aimed at restoring most of the river's usual barge traffic while the lock is repaired, are the result of grain and feed companies, shippers, the Tennessee Valley Authority and other groups working together.

The emergency measures include the construction of a mile-long road around the north end of Wheeler Dam, which is about 15½ miles up river from Muscle Shoals, Ala., to enable shippers to truck grain from barges below the break to others above; installation of two "marine legs" for conveying grains and other ingredients from barges below the dam to others above it, and pipelines for transshipping liquid commodities, including molasses.

One of the marine legs is to be rented by TVA from Cargill, Inc., Minneapolis. (Its planned operation was described in Feedstuffs, July 1, page 7). The other is being purchased by TVA. It will be assembled at Wheeler Dam and is expected to be in service by late August. The waterborne elevating conveyor to be provided by Cargill probably will be operating by the end of July.

Waterways Journal said TVA will provide steam for heating barge shipments of molasses and asphalt so that they can be transferred by pipeline over the dam.

Eleven grain and feed companies having terminals above Wheeler Dam have formed a non-profit corporation—the Upper Tennessee River Grain & Feed Ingredients Receivers Assn., Inc.—to operate transfer facilities and share costs (Feedstuffs, June 24, page 1).

The group includes Consolidated Blenders, Inc., Fremont, Neb.; Central Soya Co., Inc., Ft. Wayne, Ind.; Cargill, Inc., Chattanooga; Allied Mills, Inc., Chicago; Ralston Purina Co., Guntersville, Ala.; Decatur (Ala.) Grain Co.; J. Allen Smith & Co., Knoxville; Dixie Portland Flour Mills, Chattanooga; Cotton Producers Assn., Guntersville; O. J. Walls Co., Guntersville, and Alabama Flour Mills Co., Decatur.

Donald C. Kautz Dies

RALEIGH, N. C.—The man who was acclaimed the "most courteous salesman" by officials of the Dixie Poultry Exposition is dead.

Services for Donald C. Kautz, 48, were held in Raleigh. He died while attending a planning meeting of the Dixie Exposition in Asheville.

He had been connected with Elby Poultry Supplies for the past 10 years and prior to that was with several other companies.

IMPORTANT NEW RESEARCH by Canadian scientists show that **(1)** Blue Comb is caused by a bacterium, *not a virus*, and **(2)** Neomycin is far more effective against this bacterium than any other antibiotic! Now Gland-O-Lac's NEO-MY-SOL Solution is more than ever the treatment of choice for Blue Comb. And remember: Neomycin is non-systemic—*remains in the intestine* where disease is located, and is up to 50 times as effective against complicating bacteria such as E. Coli, Pseudomonas, Proteus and other organisms. Blue Comb is more prevalent now than for many years. See your Gland-O-Lac service man or write today for full details of Blue Comb investigations by Canadian research team, and recommendations for use of Gland-O-Lac NEO-MY-SOL.

You can depend on

GLAND-O-LAC

for progress in medication!

THE GLAND-O-LAC COMPANY, OMAHA

★ Buy and Sell Through WANT ADS ★

SERVE ALL YOUR FERTILIZER CUSTOMERS BETTER

SPREADING ACCURACY FOR SMALL OR BIG JOBS

MODEL N-48

2-4 TONS

Model N-28 (2 ton) and the N-48 (4 ton) shown, have unique no-spring, individual wheel suspension—all wheels carry equal weight at all times. These tractor pulled "compacts" make money as rental units.

MODEL P710

(Available in three spreading widths—24, 40 and 50 ft.)

4-13 TONS

Model P710 shown, has a 7 ton capacity. Other "P" models available from 4 to 13 tons. All "P" models are available in 3 spreading widths, and can accurately spread by test—75 lbs. per acre on up.

GET THESE SIMONSEN TROUBLE-FREE FEATURES

- Stainless Steel Apron
- Stainless Steel on all Critical Corrosion Points
- All-Weather Wheel Drive

WRITE, WIRE OR PHONE COLLECT

for further information about the P710 and the N-48, plus a full line of other bulk fertilizer spreaders and bodies, bulk feed bodies, bulk and sack bodies and unloaders.

SIMONSEN MANUFACTURING CO.

Dept. FS QUIMBY, IOWA Phone 72

4722 BROADWAY • KANSAS CITY, MO.

CHECK FEEDSTUFFS WANT ADS!!

AIR OPERATED VALVES

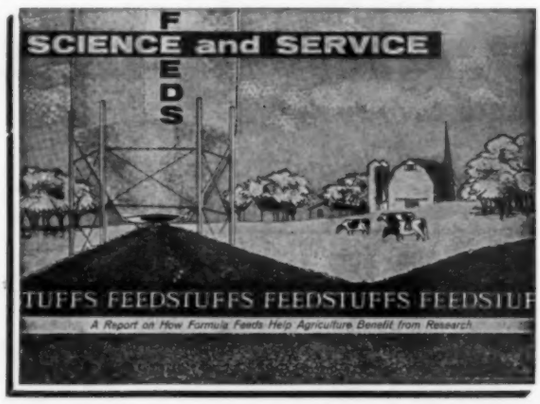
Shelby's "Rapid-ACTION" air valves come in slide type, two or three way with manual or push button controls. Valves can be installed with ¼ in. vinyl tubing from compressor.

THE SHELBY MANUFACTURING CO. • SIDNEY, OHIO

Specialists IN RETURNABLE BAG PROGRAMS

WRITE OR WIRE ▶ THE DAYTON BAG AND BURLAP CO.
322 S. PATTERSON BOULEVARD, DAYTON 2, OHIO BA 2-7877

Here's an easy way for you to make bigger sales to better customers . . .


SCIENCE and SERVICE
FEEDS
TUFFS FEEDSTUFFS FEEDSTUFFS FEEDSTUF
A Report on How Formula Feeds Help Agriculture Benefit from Research

In this 16 page booklet your customers and prospects will find a practical "short course" on the formula feed business. Give *Science and Service* imprinted with your name to your customers and prospective customers. Tell feeders, educators, businessmen and others about progress in animal agriculture and the feed industry. You'll be providing them with up-to-date information and ideas on such subjects as . . .

Broiler Feeding	Turkey Feeding	New Research Developments
Cattle Nutrition	Swine Rations	Improved Feed Formulation

Science and Service is a summary of special Golden Year articles in observance of American Feed Manufacturers Association 50th anniversary. Twelve outstanding feed authorities contributed to the reports which appeared in Feedstuffs during the past year and from which this booklet was compiled.

A limited number of reprints of Science and Service *are available now at a single copy price of 50¢. Larger numbers available at quantity prices, ranging downward from 35¢ each for 10 to 100, 25¢ each for 100, to 10¢ each for 1,000. Imprinting a three line company signature on back page of quantities over 100—$7 minimum. Inquire about additional quantity discounts.*

FEEDSTUFFS Reader Service Department
P.O. Box 67 Minneapolis 40, Minn.

Please send me ..... copy(ies) of the Golden Year "Science and Service" booklet. I would like the copies to be imprinted with name and address as shown below: Yes No Payment is enclosed.

Name ..... Title.....

Company name .....

Address .....

City ..... Zone.... State.....

Appraisal of *COCCIDIOSIS VACCINATION* For Replacements

By R. L. Bickford, Jr.
Wirthmore Feeds, Inc.

The current broiler coccidiostats are doing a reasonably effective job of controlling coccidiosis in meat birds. Since they are fed continuously, immunity development is not important. From an economic standpoint, coccidiosis vaccination may be of value for heavy meat birds. Our studies and field experiences with coccidiosis vaccination indicate that its principal value is for the control of coccidiosis in replacements. For this reason, my remarks will be confined to an appraisal of coccidiosis vaccination for replacements.

The control of coccidiosis in replacements and laying hens is a complex problem. It is a well known fact that once chickens have been sufficiently exposed to coccidiosis they develop immunity to the disease. However, one must realize that chicken coccidiosis is a complex disease caused by at least nine different species of coccidia. Immunity development is species specific, and in order to develop satisfactory immunity, birds must be exposed to all damaging species.

The use of coccidiostats has been helpful, but has not solved the problem in replacements. The most effective coccidiostats when used at recommended and approved levels will suppress immunity development to certain species of coccidia. Several of the older coccidiostats will permit immunity to develop in their presence, but the development of certain coccidial strains resistant to these drugs has limited their effectiveness. Because of these limitations, it appeared to us that the planned immunity program developed by Dr. S. A. Edgar of Auburn (Ala.) University, might be the most reliable method for controlling coccidiosis in replacements. For this reason, we decided to devote a part of our research effort to coccidiosis vaccination.

AUTHOR—Mr. Bickford was named director of research for Wirthmore Feeds, Inc., Waltham, Mass., in January of this year. He joined Wirthmore as a poultry serviceman in 1951 and was transferred to the company's research department after 2 years of field service.

R. L. Bickford

The author holds a B.S. degree in agriculture from the University of Vermont and an M.S. from Cornell University. Before becoming a part of the Wirthmore organization, Mr. Bickford taught poultry and economics courses at the Vermont Agricultural and Technical Institute, Randolph Center, and managed the school's poultry farm.

This article is a research report made by a firm in the feed industry itself. As with all research reports and articles, publication does not necessarily constitute endorsement by Feedstuffs.

First Studies in 1955

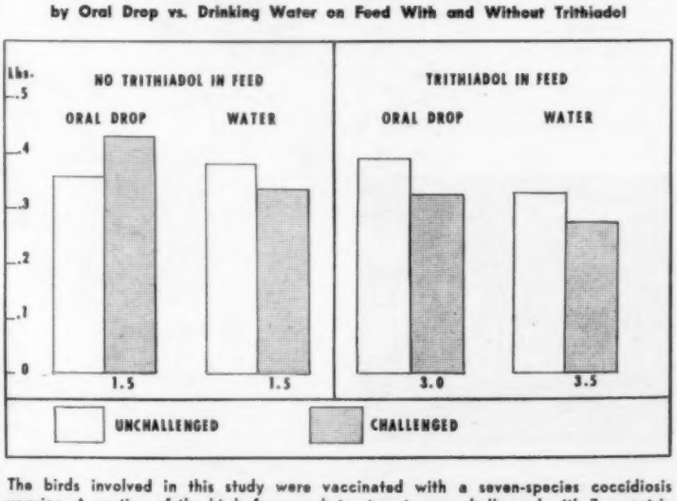
Our first studies were conducted in 1955 and involved primarily the five-species vaccine (containing E. tenella, E. necatrix, E. maxima, E. acervulina and E. hagani). An outbreak of E. brunetti in vaccinated birds at our research farm suggested that this species should be included in the vaccine. Later experience at our research farm and in the field indicates that two more species should also be added. The use of all damaging species in a vaccine of this nature has been questioned by some because of the possibility of introducing new species to certain farms or areas. Recent studies on the prevalence of the different species in several areas suggest that all species are widespread.

Properly vaccinated birds will de-

TABLE 1. Coccidiosis Vaccination Summary

	No. Species in Vaccine			
	5	6	7	Total
No. flocks ...	30	127	16	173
No. birds	100M	500M	100M	700M
% Breaks	23	14	7	15

FIGURE 1. Immunity Development in Replacements Vaccinated for Coccidiosis by Oral Drop vs. Drinking Water on Feed With and Without Trithiadol



The birds involved in this study were vaccinated with a seven-species coccidiosis vaccine. A portion of the birds from each treatment were challenged with E. necatrix (100,000 sporulated oocysts per bird) at 6 weeks and 2 days of age. A droppings blood score was recorded following the challenge and the maximum scores are given under the bars representing the challenged groups (scoring system: no blood = 0 to severe bleeding = 5). The bars represent weight gains for an eleven-day period immediately following challenge.

TABLE 2. Distribution of Breaks

Area	No. of flocks vaccinated	No. species in vaccine	Period breaks occurred and species identified 0-6 weeks	7-12 weeks	13-24 weeks
I	5	5		b,b	
	35	6	t,t,N	tn, ?	X
	3	7		x	
II	2	5		n	
	33	6	t,t	n,pm	
	7	7			
III	2	5		n	
	27	6		a	an
	3	7			
IV	4	5			
	24	6	n	? ?,b,b	?,?
	3	7			
V	17	5	?,?	n	
	8	6			

Areas I and II represent northern New England and Areas III, IV and V involve birds vaccinated in southern New England, New York, Pennsylvania, Michigan, Ohio, North Carolina and South Carolina.

velop satisfactory immunity to all species of coccidia for which they are vaccinated. E. necatrix is the weakest link in the chain according to our studies and field observations. It normally takes longer to develop immunity to this species than to most of the others.

Recently, the oral drop method of vaccinating chicks for coccidiosis at day-old was introduced. Since most of our work, including field studies, involved vaccination via the drinking water, we decided to compare the oral drop method at day-old with water vaccination at 3 days of age.

Figure 1 summarizes immunity development for this comparison.

The seven species vaccine used in the comparison contained E. praecox and E. brunetti in addition to the five species mentioned earlier. The vaccinated birds were challenged at 6 2/7 weeks of age. Although the challenge did not cause mortality in the vaccinated birds, blood was observed in their droppings. This suggests that immunity to E. necatrix was not fully developed at 6 2/7 weeks of age.

Weight gains following challenge were slightly better for the oral drop method suggesting slightly faster immunity development. The birds which did not receive a coccidiostat also appeared to have better immunity development since they produced lower blood scores. This is an expected reaction, but in the field a coccidiostat is normally recommended because the combination of vaccination and natural exposure might cause a break without the drug. Other workers indicate that the oral drop method provides more uniform as well as slightly faster immunity development. This method of vaccinating is adapted to hatchery application.

Field Evaluation

The rest of this presentation deals with a field evaluation of coccidiosis vaccination.

During 1959 and 1960 we collected information on 173 replacement flocks (700,000 birds) vaccinated with three types of vaccine. Flock size ranged from 450 to 44,000 birds. Records were kept throughout the growing period and in most cases the laying period was also involved. Table 1 summarizes results with these field flocks.

It is interesting to note that as the number of species in the vaccine was increased the number of coccidiosis breaks decreased. A coccidiosis break was considered to have occurred when the flock involved showed definite signs of the disease, a diagnosis was made by a diagnostic laboratory, and treatment was required to bring the problem under control. An additional 7% of the flocks on each vaccine showed either a noticeable reaction to vaccination or mild symptoms of coccidiosis during the middle part of the growing period. Such cases were not diagnosed as coccidiosis nor did they result in any economic losses.

Table 2 shows the distribution of coccidiosis breaks in vaccinated flocks, the type of vaccine on which they occurred, the species of coccidia involved, the age when the birds were affected and the areas involved.

Differential diagnoses were made by state diagnostic laboratories. The species identified are indicated in Table 2 by the first letter of the species name. For example, t stands for E. tenella. In some cases two species were found. The designation pm indicates that both E. praecox and E. maxima were involved. One flock in Area I had a break attributed to E. necatrix (N) at 3 weeks of age and a second break caused by the new species, E. mivati (X), after it had been in production for 6 months. The question mark indicates that no species identification was made.

In 8 of the 173 flocks vaccinated, breaks occurred from 2 to 6 weeks after vaccination. Fifteen flocks had breaks 6 to 12 weeks after vaccination and three flocks had breaks after they were 12 weeks old. Four flocks had excessive mortality attributed to coccidiosis following vaccination, but in each case only a part of the flock (one pen or one floor) was involved. Only one break was observed in the laying house. Generally, the vaccinated flocks have performed very well in the laying house.

At least half of the farms selected for these vaccination studies had a past history of coccidiosis problems. In Area I, for example, over 80% had trouble with coccidiosis prior to vaccinating. Since these same farms have been using the vaccine, only 20% have had trouble with coccidiosis. Most of the breaks in the vaccinated flocks were attributed to three factors: (1) An insufficient number of species in the vaccine, (2) conditions which favored an early rapid build-up of coccidiosis and (3) conditions which prevented optimum immunity development.

Success Factors

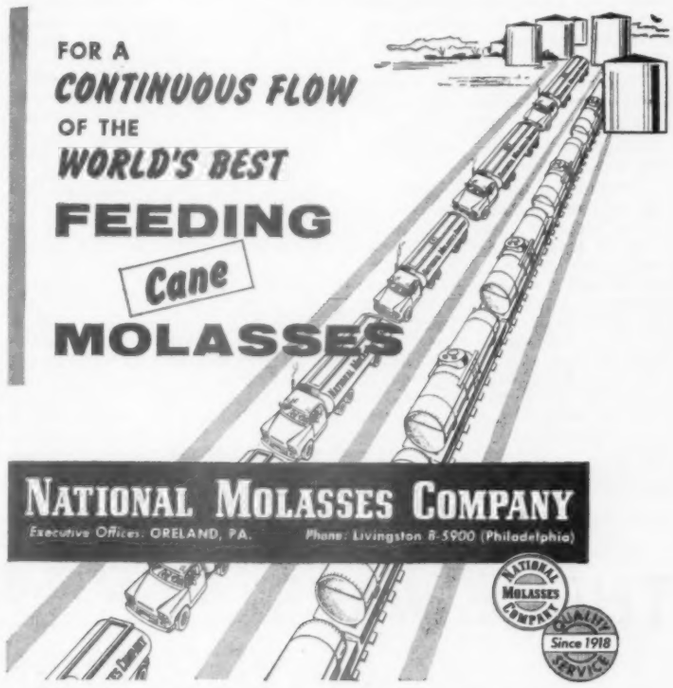
Proper knowledge of the coccidiosis vaccination program is essential to its success. Table 3 summarizes factors which affect the success of the program based on field observations.

The number of species in the vaccine was related to at least four of the breaks observed. Our observations indicate that for satisfactory protection the vaccine should contain all of the damaging species of coccidia, particularly for areas where coccidiosis exposure is heavy.

Proper application of the vaccine

TABLE 3. Factors Affecting Success of Coccidiosis Vaccination

1. Number of species in vaccine
2. Application of vaccine
3. Coccidiostat used
4. Age when vaccinated
5. Litter condition
6. Other drugs used
7. Other vaccinations given
8. Other diseases
9. Management
10. Susceptibility to coccidiosis



FEEDSTUFFS—*LEADER in its field*

More advertisers use FEEDSTUFFS than any other publication in the feed industry

heavy duty construction for high tonnage output

- Rugged, welded steel construction.
- Extra-large, extra-high feed opening.
- Powerful six-blade fan assures maximum mill capacity.
- Adjustable, long-lasting, 10-edge hammers.
- Heavy screens (¼" thick) changed quickly, safely...while mill is running.
- Large diameter, alloy steel shaft.
- Self-aligning, dustproof bearings.
- Separate, motor driven fan (optional).
- Heavy duty crusher-feeder (optional).
- 15-second floor-above screen change (optional).

MAIL COUPON FOR COMPLETE DETAILS

SCHUTTE PULVERIZER CO., INC.
872 Bailey Avenue, Buffalo 6, N. Y.
Send FREE copy of Heavy Duty Hammer Mill Bulletin No. 10 to:

Name
Title
Company
Address
City Zone State

Sales Representatives and Warehousing Distributors throughout U. S. A.

is important. Five of the breaks observed were related to improper vaccination. Some of the problems observed in this connection were as follows:

1. Vaccine was administered through a water proportioner.
2. Stabilizer was not used.
3. Improper dilution of vaccine when administering.
4. Insufficient watering space.

A suitable coccidiostat should be used in the feed until birds are six weeks old. Most of the current broiler coccidiostats will not permit satisfactory immunity development in their presence at approved use levels. Our experiences indicate that SQ, Trithiadol and Bifuran are satisfactory coccidiostats to use in the vaccination program. Removal of the coccidiostat earlier than 5 weeks after vaccination may have caused two of the breaks observed in our field studies. Feeding the coccidiostat for more than 6 weeks after vaccination may delay immunity development to certain species even with recommended coccidiostats.

The age when birds are vaccinated may have a bearing on the success of the program. When birds are vaccinated later than recommended, a combination of heavy natural exposure and the vaccination may cause an outbreak. This was apparently the case with two of the field flocks involved in our appraisal. One flock, for example, had a break two days after it was vaccinated.

Condition of the litter for the first three weeks following vaccination is an important factor affecting the success of coccidiosis vaccination. In this regard, heat source must also be considered. Some moisture must be present in the litter for oocyst sporulation. If the litter is too dry, the birds will not get a sufficient number of sporulated oocysts to permit proper immunity development. If the litter is too moist, then the oocysts may multiply too rapidly and a coccidiosis break may occur. With heating systems that keep the litter unusually dry, the litter should be sprinkled periodically for the first three weeks after vaccinating. Good ventilation is important in avoiding excessive moisture. Condition of the litter was related to at least four of the breaks observed.

Use of other drugs, water sanitizers, or chlorinated water can have an adverse effect on vaccination if administered during and immediately following vaccination. NF-180 at levels above 2 lb. per ton (50 gm. of furazolidone) and potentiated Aureomycin or Terramycin will delay immunity development.

Other vaccinations should be planned so that any stress which they produce will not coincide with the reaction to coccidiosis vaccination. For respiratory diseases the vaccine should be administered within 3 days after coccidiosis vaccination.

Other diseases which occur during the immunity development period might provide enough extra stress to cause a break.

Sound poultry management contributes greatly to the success of any vaccination program. Good sanitation, proper ventilation, and sound feeding practices are vital for success. One practice which has been observed to adversely affect the success of coccidiosis vaccination is the moving of birds to new quarters before sufficient immunity has developed. For best results birds should not be moved until at least five (preferably six) weeks after they are vaccinated. If they must be moved, then move some of the litter with them. It is not advisable to completely change the litter during the period when coccidiosis immunity is being developed. Provide sufficient floor space and an adequate amount of feeder and waterer space.

Susceptibility of the strain of birds involved to coccidiosis is a factor of minor importance. In coccidiosis challenge studies it has been observed that some strains of birds are more susceptible to coccidiosis than others. In our field evaluation it was noticed that some strains had a greater reaction to the vaccination than others.

In summary, our studies and field observations indicate that vaccination is an effective method of preventing coccidiosis in replacements. It should be especially helpful to the poultryman who has a past history of coccidiosis problems.

Use of the vaccine in the field has not been 100% effective, but the problems experienced have not all been due to the vaccine. At present, the limitations of this vaccination program involve the need for (1) the inclusion of all damaging species of coccidia in the vaccine, (2) improved early immunity development to E. necatrix, and (3) more careful attention on the farm to those factors which affect the success of coccidiosis immunization.

Test work in progress on the vaccine and method of administration should ultimately overcome most of these limitations. It must be recognized that with any biological system there will always be a few problems. This immunization program is being used effectively in the field today and shows great promise for the future.

THREE WAYS EXTENSIBLE CLUPAK® PAPER SAVES MONEY FOR FEED MANUFACTURERS

New kind of paper stretches to reduce multiwall costs...improve performance

CLUPAK extensible paper multiwalls g-i-v-e to absorb impact and strain . . . give even better performance than conventional kraft bags of heavier basis weight . . . produce substantial paper tonnage savings, plus other major benefits:

FILLING: Multiwalls fill faster and more evenly . . . reduce breakage . . . prevent costly interruptions in filling line schedules.

HANDLING: Withstand boxcar manhandling by absorbing impact . . . minimize loss from product damage and waste.

WAREHOUSING: Take rougher handling, higher stacking, without splitting or bursting.

Today 15% to 25% of all industrial multiwalls are made of CLUPAK extensible paper. Savings are the reason! Ask the man who sells you paper for a test shipment!

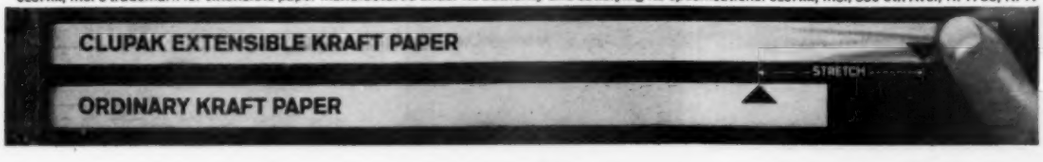
EXTENSIBLE CLUPAK® PAPER Compared to conventional kraft of equal basis weight has:

- Up to 7 times more controlled machine direction stretch.
- 3 to 5 times greater ability to withstand impact and shock.
- 10 to 20% increase in cross direction stretch.
- 40% improved puncture resistance.
- Identical smoothness and printability.

EXTENSIBLE CLUPAK® PAPER

"IT STRETCHES TO SHRINK YOUR COSTS"

*CLUPAK, Inc.'s trademark for extensible paper manufactured under its authority and satisfying its specifications. CLUPAK, Inc., 530 5th Ave., N. Y. 36, N. Y.



MANUFACTURERS and SUPPLIERS of

EXPELLERS®
SOLVENT EXTRACTION EQUIPMENT
GRAIN EXPANDERS
DRYERS
FLAKERS
MATERIAL HANDLING EQUIPMENT

Write for information and prices

The V. D. ANDERSON COMPANY
Division of International Basic Economy Corporation
1944 West 96th Street, Cleveland 2, Ohio

New Mexico to Collect For Drouth Feed Plan

SANTA FE—After 4½ years of delay, New Mexico is moving toward collection of $373,000 from 3,100 ranchers who took part in the unconstitutional drouth feed program.

Attorney General Earl Hartley has mailed letters to the ranchers telling them how much they owe the state. He did not demand repayment, but merely told them the extent of their debts.

"Nobody to date has told them how much they owed," he said. "I think they are honorable men and will pay."

The debts arose from the state's participation in the federally sponsored emergency feed program for drouth-hit ranches in 1956. After the money was spent providing feed, the New Mexico Supreme Court decided in January 1957 that the state funds were spent illegally, declaring that the money amounted to a "donation" to private individuals, expressly forbidden by the state constitution.

The debts range from 98¢ to $7,000.

Attorney General Hartley did not release the names of any ranchers involved in the drouth-feed debts. He said he would not reveal any names unless he was forced to bring lawsuits to recover the money. This was the only hint he gave on what action he would take if they do not pay voluntarily.

Illinois Plans Feed Microscopy School

SPRINGFIELD, ILL. — A school for beginner and advanced students in the fundamentals of feed microscopy will be held here by the division of foods, dairies and standards, Illinois State Department of Agriculture. The event is scheduled for Aug. 28-Sept. 2.

A. W. Creswell, state feed microscopist, who is in charge of the school, will teach flotation techniques.

Students will receive 40 hours of individual instruction in delivering the percent of components in feed ingredients and the percentage of major ingredients in feed mixtures.

In addition, students will receive fundamentals in spot testing for tracing minerals and certain drugs in medicated feeds.

At the completion of the course, each student will receive five samples evenly distributed through 1961 and 1962 as a follow up on the instruction received during the course.

The class will be limited in number. Interested persons are asked to write Mr. Creswell at 2028 N. 20th St., Springfield, Ill.

New Home Office

BLOOMINGTON, ILL.—The Illinois Farm Supply Co. headquarters is now in a new home office building here that contains general offices of the Illinois Agricultural Assn. and its eight affiliates.

The company's new address is 1701 Towanda Ave., P.O. Box 585, Bloomington, Ill.

S. D. Firm to Handle Bio-Zyme Products

SIOUX FALLS, S.D.—Articles of incorporation have been filed by National Bio-Zyme, Inc., Sioux Falls, to handle products of Bio-Zyme, Inc., Sheldon, Iowa, firm, for which the now defunct Northern Bio-Chemical Co. was a major distributor.

Officers of the new firm, capitalized at $500,000, are William C. Crampton, president; Newton J. Relyea, vice president; and his wife, Irene, secretary-treasurer.

Bio-Zyme, Inc., which is owned by H. E. Kistner and his son, Jim, supplied an enzyme feed supplement to Northern Bio-Chemical before it was forced into bankruptcy after its major stockholder, Burnice Geiger, admitted embezzling more than $2 million from her father's bank in Sheldon.

MILLERS TO THE TRADE

In the course of more than 60 years of service to formula feed manufacturers, Fruen Milling Company has established a reputation for quality and service at competitive prices.

Today, with competition even keener than before, Fruen's experience and know-how can provide feed manufacturers with grain ingredients that maintain profits without sacrificing quality.

Contact Your Broker or Dealer
Fruen Milling Co., Minneapolis, Minn.
FRanklin 4-2142 or Teletype MP 477

Fruen's

FEEDERS GET ONE STEER FREE FOR EVERY 29 THEY FEED!

Starting with only 29 steers and ending up with 30 is a real accomplishment any way you look at it. Yet, feeding tests now show that a profit bonus like this is not only possible . . . it's probable in most cases.

Extensive tests compared a normal diet with one fortified with 5% stabilized animal fat on a group of yearling steers and heifers of Hereford and Angus breed. At the end of the 141 day test, those receiving the fat fortified diet gained an average of 32 pounds more . . . a bonus equal to an extra steer for every 29 head.

And that was only the beginning! Those on the fat ration consumed far less feed per 100 pounds of gain . . . 61 pounds less mixed feed and 40 pounds less roughage. On this basis, feed savings averaged 10% per head. When carcasses were graded, only 50% of the normal diet group were rated choice or better while 72% of those receiving fat fortified rations were graded prime or choice.

All these findings mean more money for the feeder. If you're not already mixing fat enriched rations, talk to your local renderer soon. He can give you complete details on tests like this, as well as other research information which shows the way to more weight gain, lower cost per pound of gain, and increased growth rate for poultry, hogs, and cattle.

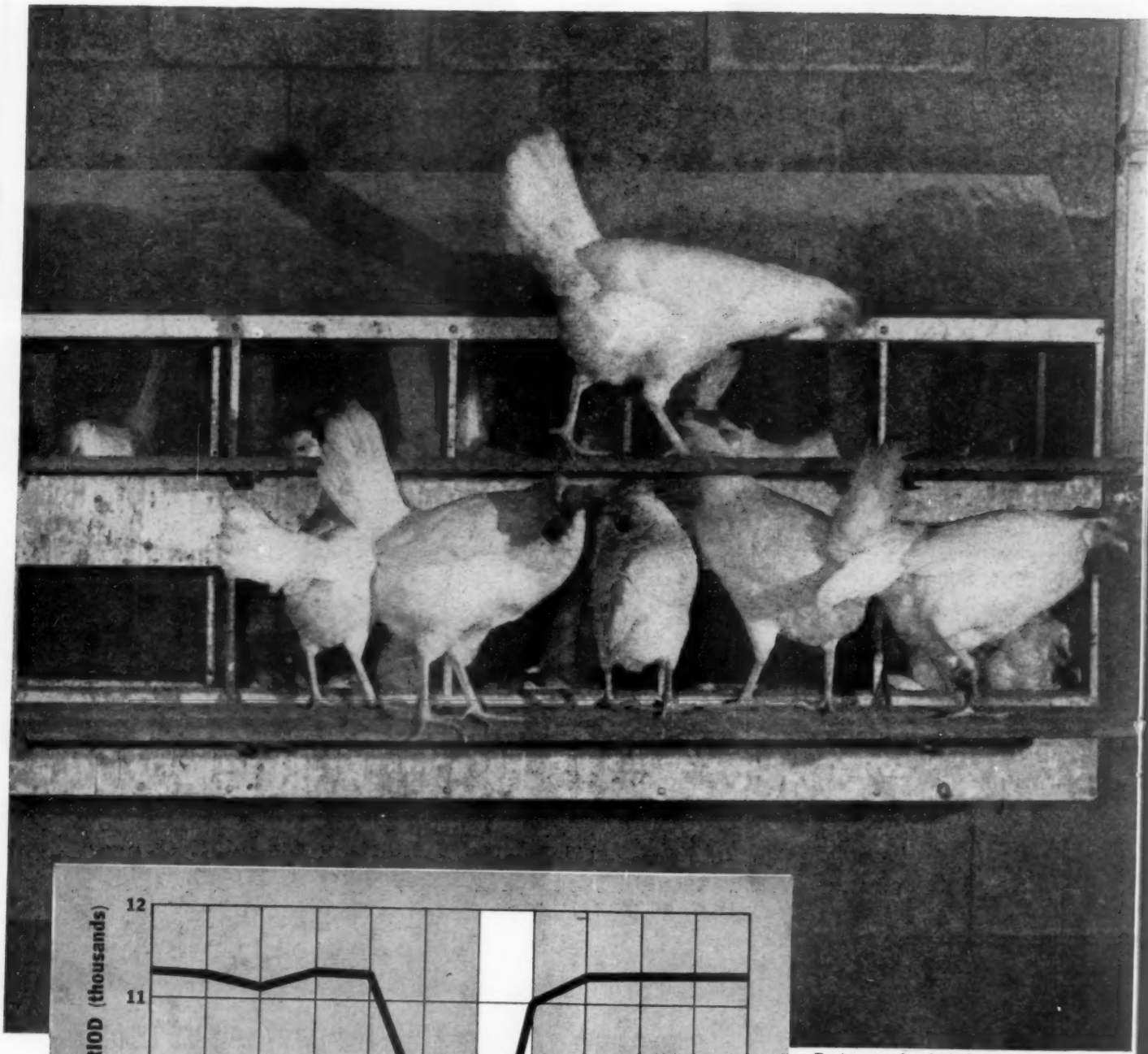
Best of all the use of animal fat helps improve the market for animal protein byproducts . . . results in better cattle prices when they're sold.

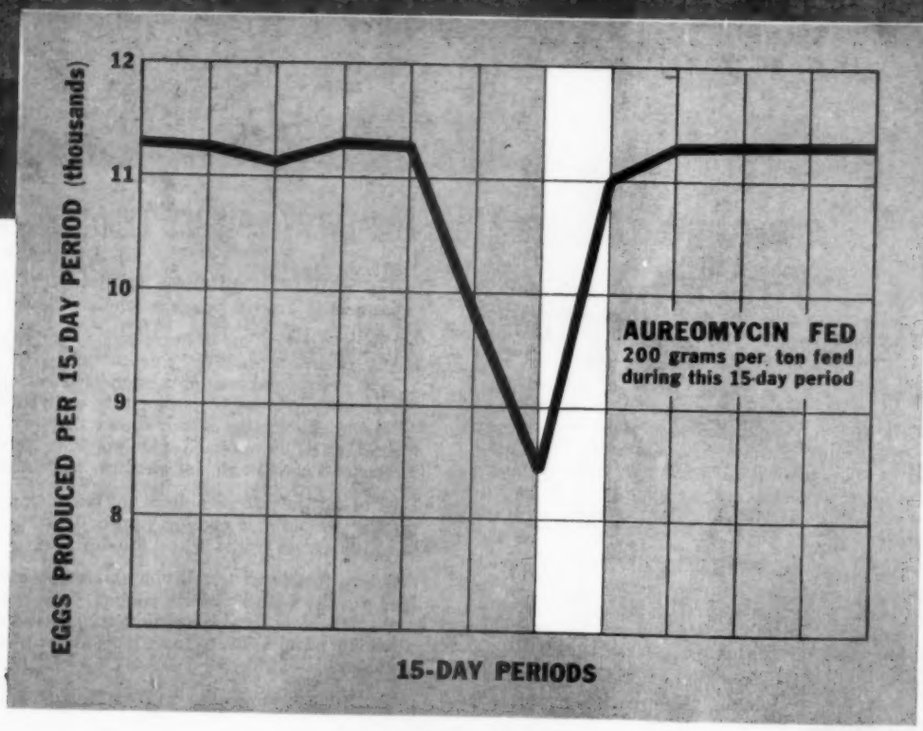
Ask your renderer to tell you about improving your feed results with stabilized animal fats, meat meal, meat and bone meal, poultry byproducts meal, and other products of today's scientific rendering industry.

nra national renderers association
30 N. LASALLE ST. FRanklin 2-3289 CHICAGO 2, ILL.

T. E. STIVERS CO.
DECATUR, GA.
CONSULTING • DESIGN
ENGINEERING
Mill Modernization Studies
Appraisals—Special Problems

Fight HEART DISEASE #1 ENEMY
Give HEART FUND





Best way to head off slumps in egg production brought on by stress is to offer your producers a well-fortified layer feed containing 200 grams of AUREOMYCIN per ton. This is an essential step in the Cyanamid Coordinated Feed-Health Program for layers.

This chart illustrates the egg production history of a flock of 1500 heavy-breed hens in Texas. Although the hens appeared healthy and no disease was revealed by clinical investigation, note the sudden drop in production over a 30-day period, followed by the rapid recovery within 15 days after the feeding of AUREOMYCIN. Note also that production remained at a high level after AUREOMYCIN was withdrawn.

HOW TO KEEP FEED INTAKE UP AND AVOID HOT WEATHER SLUMPS

When you show your producers how to do it with a special layer feed containing 200 grams of Aureomycin, you put more money into their pockets and more feed sales tonnage on your books

Your most successful egg producers keep vigilant eyes trained on feed consumption charts . . . particularly during spells of hot weather.

They know that heat stress can bring on a sharp decline in feed intake with an equally sharp drop in egg production following in its wake.

So, as soon as the feed consumption figures begin to fall off, they move in fast with efficient measures to reduce stress effects. One of the most important of these measures is a high-level antibiotic feed designed to keep hens eating.

Feed companies supply well-fortified feeds

Producers are able to take this step swiftly and profitably because progressive feed manufacturers have provided them with *exactly* the kind of feed needed to meet and correct the situation.

This is a well-fortified palatable feed containing 200 grams of AUREOMYCIN® per ton. Fed for 5 days, or longer if stress is unusually severe, this feed quickly restores birds to good health and normal production.

AUREOMYCIN at the 200 gram level provides a tremendous boost to appetite and vigor in heat-stressed or out-of-condition birds. No other drug is so effective in controlling the clinical and subclinical diseases that often follow stress.

Many feed manufacturers recommend this type of feed for all stress periods — not only for hot weather but for pullet-housing time and during extreme cold weather. They also recommend such a feed as the most effective treatment of CRD, blue comb and synovitis.

If you are not now promoting a stress feed containing AUREOMYCIN, plan to do so. It can be a production booster for your producers — and a sales booster for you. American Cyanamid Company, Agricultural Division, New York 20, N. Y. ®*AUREOMYCIN is American Cyanamid Company's trademark for chlortetracycline*

The label instructions on Cyanamid products, and on products containing Cyanamid ingredients, are the result of years of research and have been accepted by Federal and/or State Governments. Always read the labels and carefully follow their directions for use.

CYANAMID

AUREOMYCIN
IN FORMULA FEEDS

CYANAMID SERVES THE MAN WHO MAKES A BUSINESS OF AGRICULTURE

Feed Analysis Program Featured at Convention of Feed Microscopists

DENVER—The American Association of Feed Microscopists held its ninth annual convention here recently, and the program featured 13 scientific papers on microscopy and related topics.

Each of the papers was delivered by a specialist from one of the various state feed control laboratories or the industry.

A special feature of this year's meeting was the feed microscopy short course where the enrollees received highly individualized instruction at both beginning and advanced levels. Instructors for the short course were L. A. Barefield and Melvin Tucker of the Arkansas State Plant Board; E. E. Brown, Texas Agricultural Experiment Station, and G. M. Barnhart, Missouri Department of Agriculture.

Also presented at the annual meeting was a photo supplement to the Manual of Feed Microscopy. The supplement consists of 16 photographs of the leading grains, seeds and minerals used in livestock feeding. The grains and seeds are shown both unground and in ground or meal form, the association reports.

The supplement is to be sent to all manual owners and will be included in all copies of the manual sold in the future. Manuals are available from G. M. Barnhart, secretary-treasurer, Missouri Department of Agriculture, Jefferson City, Mo.

Summaries of Papers

Brief resumes of the papers follow:

(1) Following a Feed Sample Through the Microscopy Laboratory; Melvin Tucker, Arkansas State Plant Board—The main feature of this talk was the description of the systematic fractionation and examination of the sample through which the presence of all ingredients listed on the feed tag together with the absence of all ingredients not listed is confirmed.

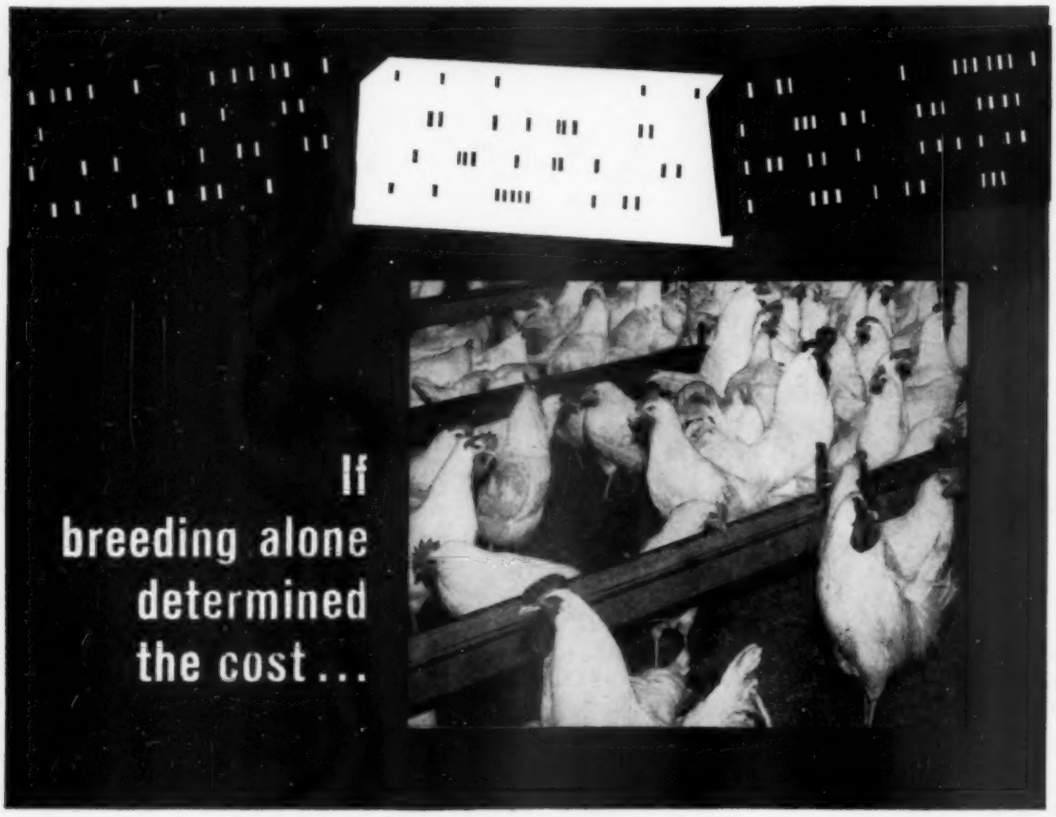
(2) Why the Feed Microscopist Should Know Crystallography; W. C. McCrone, McCrone Associates—Since the primary purpose of microscopy is the recognition of the various feed components, simple, rapid and foolproof methods of identification are of much practical value. Most of the routine methods in present use depend on observations of the morphological characteristics such as particle shape, color, transparency, surface texture, etc. However, in many cases a much more exact identification can be made by supplementing these observations with measurements of crystal angles, refractive index, birefringence, etc. According to the author, all solids are crystalline, and due to the large number and variety of physical properties that can be easily determined with high accuracy, the chance of error in identifying a given compound is greatly reduced through the use of these measurements.

(3) Problems of the Israel Feed Industry; E. E. Brown, Research Scientist, Texas Agricultural Experiment Station, College Station, Texas—In this paper the author presented a brief but fairly broad description of the present status of the feed industry in Israel. Approximately 95% of the mixed feed produced in Israel is used in poultry production. There are approximately 250 feed mills in Israel; however, all are very small, most being equipped with 1.5-2 ton vertical mixers. Operation is on a very limited schedule, sometimes less than one day per week. There is a definite aversion to the grinding of grain beyond the "cracked" size resulting in serious segregation in the bag and selection by the animals. No pelleted feeds are produced.

(4) A Tracer Method for the Detection and Determination of Micro Ingredients; Dr. S. Eisenberg, ANRESCO Research—This paper featured the description of a systematic method for rapid (microscopic) determination of the uniformity of inclusion of a minor or trace ingredient or ingredients in a feed without chemical analysis through the use of a tracer composed of a finely divided (accurately sized) salt (sodium chloride) coated with a water soluble-organic insoluble dye. The test is made by premixing the tracer salt with the feed ingredient under study at a level which will give 10-25 parts per million of the tracer salt in the feed. The tracer-containing ingredient is then mixed with the feed according to normal production procedure. Samples are withdrawn and the mineral portion of the feed is separated from a weighed sample in a chloroform or carbon tetrachloride flotation. The mineral residue is dried (hot plate) and spread on filter paper after which it is sprayed with water to dissolve the dye which is absorbed by the paper resulting in the development of colored spots. Since the number of particles per gram of the tracer salt is known, it is extremely simple to count the number of spots (or tracer particles) in the feed sample and to compare this number with the quantity which should be present if the added ingredient (and tracer) are uniformly distributed.

(5) The Role of the Food and Drug Administration in Civil Defense (with Special Emphasis on the Advantages and Disadvantages of the Fluorescent Antibody Techniques); H. V. Leininger, Food and Drug Administration—Present efforts by the FDA toward developing a state of readiness in the U.S. with respect to all conditions of national emergency were described. An extensive research program involving the addition of biological warfare (BW) agents to food to investigate their survival and to develop decontamination procedures is under way. Fluorescent antibody techniques offer distinct advantages in the identification of various BW agents and studies are being conduct-

(Turn to CONVENTION, page 75)



Arbor Acres Queens would cost as much as any replacements you can buy!

In five recent Random Samples Arbor Acres Queens outperformed the other six leading white egg layers. Ahead in average income and in average production per pullet housed, they were well above average in livability and feed conversion. In egg quality they produced their usual outstanding results: the strong interiors and tough, even-textured shells handlers are looking for. What's more, *these Queen entries were not experimental crosses but the same strain cross you can buy right now.*

To develop commercial layers like these required a proven breeding program. This costs a lot of money. Breeding, however, is not the only cost in a pullet. There is always the cost of distribution which has nothing to do with increasing your profit. So we found a way to distribute more efficiently. We already maintained our own farms in every important egg-producing area with plenty of room for strain cross breeder flocks. With these we eliminated much of your hatcheryman's overhead. He saves and passes the saving along to you. The way today's Queen is performing you're still ahead at housing time and throughout the laying year. Does it make sense to pay more for your replacements when there's an Arbor Acres Queen hatcheryman nearby? Better call him right away.

Arbor Acres

GLASTONBURY, CONN. Egg Production Research; NORTH STONINGTON, CONN. San Luis Obispo, Calif. • Concord, N.C. • Blairsville, Ga. Skowhegan, Me. • Carthage, Miss. • Dahlonega, Ga. • Springdale, Ark. • Albertville, Ala. • Thorntown, Ind. • Tenaha, Tex. • Aprilia, Italy

REMEMBER TO ORDER
CHASE BAGS
There's None Better!

Night and day protection ...only 5 pennies more

"Hygromycin B is highly effective and more nearly meets the requirements of an ideal wormer than any of the former compounds."

WORM EGGS COST YOU MONEY
EXTENSION SERVICE
UNIVERSITY OF NEBRASKA
COLLEGE OF AGRICULTURE

If you fully understand the life cycles of swine worms, you know expelling the worms every now and then is really no control at all. The worms have already done most of their damage. Not so with Hygromix! Hygromix controls worm damage continuously. And it costs far less than some folks believe.

You can give Hygromix **full-time protection** to one pig from age 5 weeks up to 100 pounds for about 21¢. You can give him the same protection to 75 pounds for only 13¢. How does this compare with purge-type wormers? Based on current prices, Hygromix costs about a nickel more than the usual two wormings. What do you get for your nickel? **Full-time protection!** People who use it know it's worth it! Try it and see.

HYGROMIX®
(S. hygroscopicus fermentation products*)*
ELANCO

Makers of Stilbosol® (diethylstilbestrol premix) • Streptomycin Sulfate • Vitamin B_{12} • Micro-Pen® (special coated procaine penicillin G)
ELANCO PRODUCTS COMPANY • A DIVISION OF ELI LILLY AND COMPANY • INDIANAPOLIS 6, INDIANA

The Chicken Comes First... in Any Quality Egg Program

And the one strain of layer that comes first in all-around egg quality is the H & N Leghorn!

We invite comparison . . . not only in Official Random Sample Test records, but in any quality controlled program where eggs are graded on a breakout basis . . . white, uniform shells of excellent quality . . . a Haugh Unit score well above the required USDA "Fresh Fancy" and "AA" grades even after 13 to 14 months of lay—these are H & N Leghorn eggs!

In 19 official tests ending in 1960, H & N had 24 entries against a total of 520 competing entries. See how H & N compares:

✶ ALBUMEN QUALITY...

H & N averaged 80.1 Haugh Unit value . . . tops over all competitors!

✶ PRODUCTION...

H & N's average hen-housed production was 14 eggs per hen more than the average of *all* competitors.

✶ LIVABILITY...

H & N lived better! They averaged 90.4% hen-housed livability—3.1% better than average of all competitors.

✶ INCOME...

21c more per hen housed than the average of all 520 competing entries.

✶ FEED EFFICIENCY...

H & N Leghorns not only produced 12 more eggs per hen, they did it on an average of .14 pounds less feed per dozen!

Be sure of your program. Order H & N's. For an appointment with an H & N representative to explain the H & N franchised distribution program and how H & N birds are doing in other quality egg programs, please write to us.

HEISDORF & NELSON FARMS, INC.
P. O. BOX 428 • KIRKLAND, WASHINGTON

Convention Calendar

July 24-28—Southeastern Egg Quality and Grading School; Auburn University, Auburn, Ala.; sec., Southeastern Poultry & Egg Assn., Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.

July 27—Technical Alfalfa Conference; co-sponsored by the American Dehydrators Assn. and USDA Western Utilization Research and Development Division; Western Regional Research Laboratory, USDA, Albany, Cal.; chm., Dr. G. O. Kohler, Chief, Division Field Crops Laboratory, Western Regional Research Laboratory, 800 Buchanan St., Albany 10.

July 28—Ohio Sheep Day; Ohio Agricultural Experiment Station, Wooster.

Aug. 2-4—West Virginia Poultry Assn. Convention and Festival; Moorefield, W.Va., sec., Wilson Smith, Petersburg.

Aug. 3-4—National Soybean Processors Assn.; Edgewater Beach Hotel, Chicago, Ill.; sec., Wm. K. Self, 3818 Board of Trade Bldg., Chicago 4, Ill.

Aug. 7-9—Southeastern Management Roundtable; Continuing Education Center, University of Georgia, Athens; sec., Southeastern Poultry & Egg Assn., Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.

Aug. 7-12—Texas Feed Microscopy Short Course; Memorial Student Center, Texas A&M College, College Station; E. E. Brown, Station Microscopist.

Aug. 8-9—Wisconsin Nutrition School; Memorial Union, University of Wisconsin, Madison; Dr. Robert Grummer, Animal Husbandry Dept.

Aug. 9—Science at Work, Open House and Reports by Staff Scientists; Connecticut Experiment Station, Lockwood Farm, Mt. Carmel, Conn.

Aug. 11—Specific Pathogen-Free Swine Conference; Center for Continuing Education, University of Nebaska, Lincoln; Louis Welch, Specific Pathogen-Free Swine Coordinator, University of Nebraska.

Aug. 13-18—School of Executive Development in Business Management, Unit II; Continuing Education Center, University of Georgia, Athens; sec., Southeastern Poultry & Egg Assn., Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.

(Turn to CALENDAR, page 66)

CALENDAR FOR 1961-62

JULY

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

AUGUST

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

SEPTEMBER

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

OCTOBER

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

NOVEMBER

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

DECEMBER

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

JANUARY

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

FEBRUARY

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28			

MARCH

S	M	T	W	T	F	S
			1	2	3	
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

APRIL

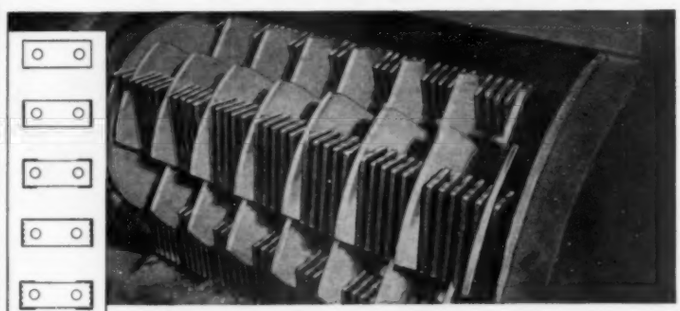
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

MAY

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

JUNE

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30



LONGER LIFE WITH THE PACAL HAMMER DESIGNED FOR YOU

Pacal offers a wide variety of types and styles of hammers to give you more hours of quality grinding and save on replacement costs. Pacal Hammers sharpen as they wear, hold their edge and cut cleaner.

NEW . . . Ask for Pacal's Abrasive Resistant BORALLOY-350 steel sheets and plates for severe production applications. Call or write the Hammer Division.

PAPER, CALMENSON & CO.
County Road B and Walnut Street • Saint Paul 13, Minnesota
Telephone: MIDWAY 6-9456

+++

Put more broiler in your feeds with Dawe's Vitamelk

There's more broiler in a ton and more profit for the grower, when you fortify your starter and finisher feeds with Vitamelk Broiler. They are critical rations that require this specialized fortification to meet today's performance demands for growth rate and feed conversion.

Vitamelk Broiler, developed by Dawe's Nutrition Research and Technical Service, is a convenient, easy-to-use comprehensive fortifier. Vitamelk Broiler is a Dawe's quality-controlled premix of vitamins, antibiotics, unidentified factors and trace minerals at research-proved levels for high-efficiency broiler feed performance.

When your Vitamelk-fortified broiler feeds are judged by cost-conscious growers, they'll be rated "tops" on the basis of growth rate, feed conversion and feed cost to produce a pound of meat.

Talk broiler feed fortification with your Dawe's man, or write for more information on Vitamelk and new concepts in broiler nutrition.

Dawe's

VITAMELK PRODUCTS

There are specific Vitamelks for:

- broilers
- layers
- breeders
- turkeys
- dairy
- beef
- swine

Dawe's

DAWE'S LABORATORIES, INC.
4800 South Richmond St.
Chicago 32, Illinois

World's Oldest and Largest Specialists in Feed Fortification

Yesterday
and
today....

Histostat®-50 still prevents blackhead best

...and this year, many more millions of turkeys will be protected with this No. 1 blackhead preventive

Every year, for ten years now, more and more turkeys have been raised on feed containing Dr. Salsbury's Histostat-50. Why? Because growers have found that Histostat-50 consistently protects their flocks against mortality and weight loss from blackhead. That's reason enough, because this kind of disease prevention is their best assurance of strong, healthy birds, the kind that are necessary to profit. In addition, test after test at experiment stations have given similar results: *Histostat-50 prevents blackhead best*. So encourage growers not to take chances with turkey profits. Mix Histostat-50 in all rations for turkeys on range and advise that it be fed continuously. Growers may need to feed Histostat-50 earlier, if they've had trouble with blackhead in the brooder house. Remember—growers can't make money on dead birds.

Histostat-50 is widely advertised

Because of sustained advertising and promotion, your customers know of Histostat-50's superior blackhead protection. That's why it is steadily growing in popularity. Make sure your turkey feeds can measure up—mix Histostat-50 in rations for range birds. Write, wire, or phone for Feed Manufacturers Guide. Or, ask for a Dr. Salsbury's representative to call personally and talk with you about Histostat-50, the feed additive that is the nation's No. 1 blackhead preventive!

Dr. SALSBURY'S LABORATORIES
Charles City Iowa, U.S.A.

MORE THAN PRODUCTS—A SYMBOL OF SERVICE

JOE BROOKS

BY AL P. NELSON

Inform the Public

A heavy downpour of rain that summer afternoon kept many farmers from coming in with the grain for grinding. The mill was only partly busy on appointment grinding from the grain bank storage. Therefore, when Pop Henley walked into the office about 4:30 holding a paper cup of coffee, and apparently in a talking mood, Joe really wasn't surprised.

"The fellows out there can handle the grinding and mixing, Joe," said Pop. "I've got an idea to discuss with you."

"Good," said Joe, leaning back in his swivel chair. "You know me. I always like to hear business building ideas. I always tell myself when I get so that I won't open my mind to new ideas, then I'll sell out and run for political office."

Pop Henley chuckled. "Yeah, that's the way it is. Man, so many new ideas are flying around this country, if a man doesn't entertain one or two of them now and then he gets way behind times. Lost in the shuffle."

"Now, how about this idea of years?" Joe asked.

Pop sipped his coffee. "Well, this idea may not exactly build business, Joe, but it will build goodwill."

"Well, Im for sound goodwill ideas, too."

Pop cleared his throat. "All spring, Joe, you have been training us in selling pesticides, fertilizers, etc., and informing us what we have to tell customers about each, including hazards. Now that is sound advice."

"I'm sure it is."

"But," went on Pop, "here it is half way through the pesticide season, and I'm afraid we have slipped up on one thing."

Joe looked surprised. "We have? What?"

Read the Label

Pop took another sip of coffee. "Well, when we sell a man a pesticide and tell him what dosage requirements to use, we recommend that he read the label when he gets ready to use the material."

"Yes, that's the precautionary thing to do," Joe said. "A sick man would not double his doctor's prescription directions. Neither should the farmer double or add to recommended dosages. You know how I have cautioned you men time and again never to misrepresent a pesticide, and to always tell farmers to check for dosages by reading the labels. So what have we forgotten?"

Pop Henley smiled. "Why, Joe, we have forgotten to run an ad telling farmers what wonderful results pesticides can achieve on farms, but that farmers should not forget to read the labels each time they use them. Just so they won't forget and use too little or too much for the job at hand."

For a moment, Joe looked at Pop Henley, then he began to smile. "I get your point, Pop, and it is a good one. Not only do we as dealers have the duty to tell farmers how to use these pesticides carefully and properly, but we also have the added responsibility of advising them during the season the pesticides are used that they should be used in proper dosages."

"Exactly," replied Pop. "Don't make a scare ad out of it, but first point out that pesticides have their place and that without them a lot of crops would fail and poultry and livestock production slip. To get the desired results, we could say in the ad, farmers should be sure to check label directions for pesticide use or to ask us if in doubt."

Thinking of the Customer

Joe nodded. "Excellent idea, Pop. That would show customers that we are concerned with their use of pesticides in the right way, and it shows we are thinking of them. I'll use such an ad next week. The season still has many weeks to run."

"And make the ad big enough," cautioned Pop, "so they will see it. And cram in some facts and figures on what wonderful results pesticides are accomplishing. Drag in that idea of following label directions as carefully as one does a doctor's prescription. That will lend a little authority."

"We'll run a newspaper ad on it," Joe said, "and we'll also stress it in our bulletin. That ought to help the situation."

Pop agreed. "And I think we could

Easy Does It!

gentle and sure

PIPOVAX®

PREVENTS FOWL POX

"Easy on me . . . easy on you!"

Wherever, *whenever*, fowl pox is a threat, PIPOVAX is the trusted answer for good health management.

This is the mild vaccine, combining gentleness with proved potency. It's so safe you can use it on day-old chicks—gives protection through the growing period. Replacement pullets vaccinated at four weeks are protected for life.

Protect your birds, your premises, your profits with PIPOVAX—one of the great health management aids by ASL. See your ASL supplier or write—

ASL

AMERICAN SCIENTIFIC LABORATORIES, INC., Madison 1, Wis.

Your Partner in Health Management

LEARN ABOUT PROFITS!

B&L

ONE MAN — ONE POWER UNIT (GAS OR DIESEL)

THE B&L MOBILE Write For Details

BARNARD & LEAS Manufacturing Company INC.

CEDAR RAPIDS, IOWA

Meeting the challenge of the '60's with service

"Sales Partner" J. B. Newton (left) and Dealer Troupe Jones, of Farmers Feed and Seed, super service center at Greensboro, Georgia, discuss plans of serving a growing poultry industry. Dealer Jones and Salesman Newton were key men in the development of the area's egg production.

THE PURINA "ARCHWAY" PROGRAM

Purina super service centers geared to needs of local farming

Before the painter dips his brush in the red paint to begin the Checkerboard sign on an independent dealer's Purina super service center, the dealer and his "sales partner," the Purina Salesman, work out detailed plans for service that meets the local farming community's needs.

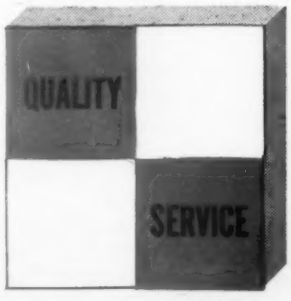
In heavy grain-producing areas, the super service center will provide Check-R-Mix grinding and mixing, grain banking, bulk delivery, on-the-farm service and other features helpful to customers. Other areas may handle complete Chows in bag or bulk and stress service to farmers who may or may not be producing meat or eggs on contract. All super service centers hold feeder meetings to help farmers keep up to date on developments in livestock and poultry.

Geared to local service to agriculture, Purina super service centers make substantial contributions to farm progress. Appreciation of this service helps Purina Dealers grow.

WHY THE PURINA FRANCHISE IS THE MOST SOUGHT RURAL RETAIL OPPORTUNITY

1. Dealers who follow the Purina Archway Program realize worthwhile profits on their investments.
2. Purina offers a well-rounded money-management program for Dealers.
3. The Checkerboard is rural America's best-known trademark.
4. There's a Purina Chow especially adapted to every livestock and poultry production situation.
5. Purina offers complete programs of breeding, management, sanitation and feeding.
6. Dealers are backed by one of the world's outstanding commercial research facilities.
7. Purina provides a complete line of research-proved sanitation products.
8. A coast-to-coast network of mills serves Purina Dealers.
9. The Purina Salesman and the Dealer have a "Sales Partnership" relationship.
10. The Ralston Purina Company is the world's largest feed manufacturer.

There are progressive, independent Purina Dealers covering most areas. If you are in one of the few remaining markets where the Purina Franchise is available . . . and if you are interested in an outstanding investment opportunity, write: RALSTON PURINA COMPANY, Department F-72, St. Louis 2, Missouri.



PURINA...YOUR PARTNER IN SERVING ANIMAL AGRICULTURE

Jacobson QUALITY
FEED MILL EQUIPMENT

JACOBSON HAMMERMILLS
AJACS Quick Screen Change
UNIVERSAL Quick Screen Change
AJACS-O-MATIC Remote Screen Change

JACOBSON MACHINE WORKS, INC.
Nearly a Half Century of Service to the Feed Industry
1090 Tenth Avenue S. E. Dept. M Minneapolis 14, Minn.

also use a big sign on the subject in the store, Joe. Smiley can make it; he's good at that sort of thing. After all, remember that one case of a pesticide used wrongly and it makes the newspaper front page, or is passed around from farmer to farmer like a scandal. One case could hurt us immensely, and make farmers forget all the good our pesticides have done. So let's take all precautionary measures."

"You are so right, Pop," said Joe gratefully. "Believe me, a modern feed mill is a busy place, with many projects going on. Once in a while we may slip up on some part of a sales promotion program, and it's wonderful to have employees bring up ideas like this to help me."

Employee Competition

Pop Henley chuckled. "Joe, there is one phase of employee suggestions that perhaps you have not realized—but perhaps you do and don't tell us. That is how we men in the mill look on such suggestions. We are actually in competition with one another. If one of us doesn't turn in an idea to you, and the rest do, the man who doesn't work on an idea gets kidded. He is told that he isn't earning that steak dinner you treat us to every month, or that he is riding the saw and not contributing his share to the over-all volume and profit on which our incentive pay is based."

"Really?" asked Joe, delightedly.

"Sure," said Pop. "Man, do we have to be on the ball. We've got so much at stake. We feel bad when our total monthly pay—salary and incentive pay—falls below the previous month. We talk about it, and figure out at lunch hour what we can do about it."

"Pop," said Joe gratefully, "I'm glad you told me this. This shows that sales training works."

Pop held up his hand. "Just one thing, Joe. Please don't load us with too many sales building ideas to make us too tense. You don't want all of us to get ulcers, do you?"

"No," laughed Joe. "I'll surely keep that in mind. Pass the word to the boys. I'm ambitious, but I am also humane. I'll always try to remember that."

UNIFORM COLOR EGGS—Uniform color of new Ames In-Cross brown eggs was dramatized in this display at the Western Poultry Congress held in Sacramento, Cal. Dr. Williams Hugh, geneticist for Ames In-Cross, Des Moines, is in the background.

California Feed Mill Improvements Progress

HAYWARD, CAL.—The Hayward Poultry Producers Assn. has announced that improvements at its Ripon plant are progressing on schedule. A complete new line for feed production is being installed in order to improve the efficiency for added production, officials reported.

As of May 31, Ripon's volume has increased 400% in two years. With a new feed production line completely automated, there will be individual units for dairy and poultry feed, officials said.

The production of dairy feed has been on the increase in the association, it was also noted. The dairy program has shown increases due to good results of producers and competitive prices, officials stated.

The association is producing five dairy feeds ranging from 12% to 17% protein. Officials said that the group's most popular feeds are the 16% hi D-N dairy and 17% dairy mash. These feeds are said to increase butterfat content for producers, as well as increase milk production.

At present, dairy feed accounts for approximately 20% of the total association feed tonnage, it was reported.

WHAT'S IN IT FOR YOU

Besides Salt ?

Plenty: For instance, the experience and know-how of top salt nutritionists who see to it that Sterling Supermix Blusalt and our Feed and Farm Salt products are top quality, and that the trace element compounds used are stable, compatible with vitamin pre-mixes and available to livestock and poultry. Plus the advice of experienced field service personnel, on call to help you solve special feed mixing and salt handling problems. Plus the advanced engineering of Sterling's own mixing equipment, guaranteeing uniform blending of the seven vital trace elements with salt, the ideal carrier, resulting in even distribution throughout your feeds.

You see? You've got it in the bag: the sum of the entire resources of a company that wants to earn your business by giving you the finest salt products . . . and service.

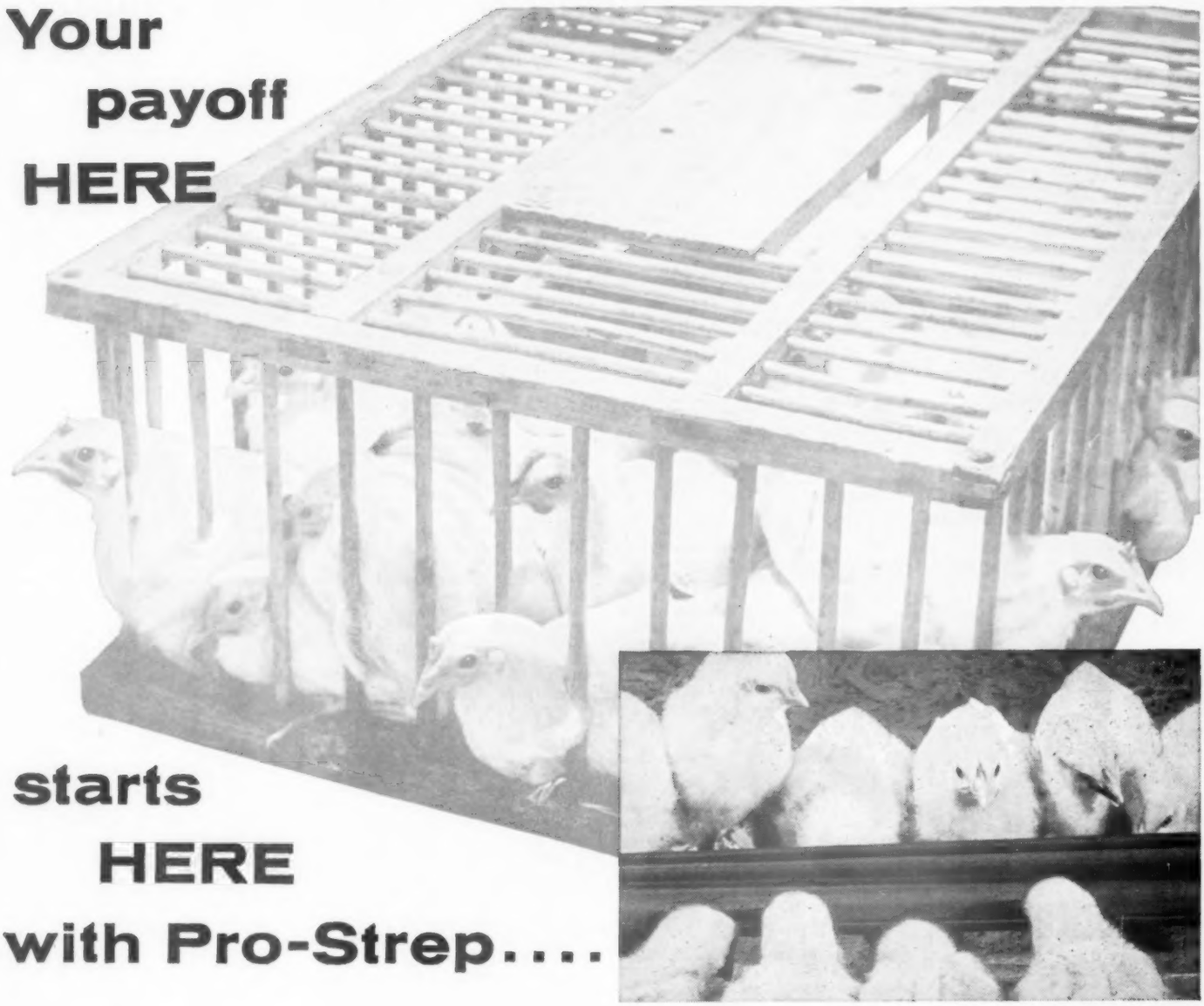
For Sterling Farm and Feed Salt products, call our District Office nearest you:
BOSTON CHARLOTTE CINCINNATI NEWARK NEW YORK PITTSBURGH
BUFFALO CHICAGO DETROIT NEW ORLEANS PHILADELPHIA ST. LOUIS

Service and research are the extras in
STERLING FARM & FEED SALT
INTERNATIONAL SALT COMPANY · CLARKS SUMMIT, PA.

afma MEMBER AMERICAN FEED MANUFACTURERS ASSOCIATION INC.

In Canada it's . . .
N. D. HOGG, LTD.
Feed Ingredient Merchants
P. O. Box 66, Station Q
TORONTO, ONT., CANADA

Your payoff HERE



starts HERE with Pro-Strep....

To help broilers put on those *extra* weight gains that pay off at market time, give your prestarter and starter rations the *extra* protection of PRO-STREP.

PRO-STREP is a highly effective combination of penicillin and streptomycin that does more than sharpen appetites, stimulate growth and improve feed efficiency. It also helps prevent early mortality due to organisms sensitive to penicillin and streptomycin and maintains feed intake and weight gains even in the presence of C.R.D., nonspecific infectious enteritis and stress conditions. Best of all, PRO-STREP does it *more economically than any single antibiotic—narrow- or broad-spectrum!*

NEWS BULLETIN—
Now that AMPROL® has been cleared for use with high levels of PRO-STREP, you can give your birds *double* disease-protection . . . antibiotic *and* anticoccidial!

Ask your Merck Feed Products Representative about getting started on a year-'round program of **PRO-STREP** *plus* **AMPROL** in your starter and grower rations. You'll find it pays off at market time.
Merck Chemical Division, Merck & Co., Inc., Rahway, N.J.

The Best Antibiotic Combination...

®TRADEMARKS OF MERCK & CO., INC., FOR AMPROLIUM AND FOR AN ANTIBIOTIC FEED SUPPLEMENT, RESPECTIVELY.

PRO-STREP® MERCK
Penicillin and Streptomycin

FOUND

An answer to conflicting claims about grain dryers—ARID-AIRE grain dryers—the one and only complete line of vertical and horizontal models in several styles and sizes.

ARID-AIRE features make profits for you.

- Completely automatic
- Absolutely safe
- Greater fuel economy
- Fast, gentle, economical drying
- Simple low cost installation

Find out for yourself. Write for ARID-AIRE information today.

DAYCOM, INC.

159 N. Bryant Ave., Minneapolis 3, Minn.

SERPASIL®
brand of reserpine is the first Tranquilizing agent accepted for use in CHICKEN and TURKEY FEEDS

SERPASIL® (reserpine CIBA)

For further information write:
Animal Health Marketing Division
CIBA PHARMACEUTICAL PRODUCTS INC.
P. O. Box 313; Summit, N. J.

CIBA

Enzymes in Barley Rations for Poultry

By Dr. J. O. Anderson
Utah State University

Interest in the possible use of enzyme supplements in poultry rations was renewed by a 1957 report from Washington State University. Workers at that school found that the feed value of barley grown in the western states could be improved by adding certain enzyme supplements.

Since 1957 we have conducted more than 40 experiments at Utah State University to study the value of various enzyme supplements in chick diets that contained regular or hulless barley. Most of this work involved hulless barley.

We had received samples in 1955 of a new variety of hulless barley being developed at this station. The crude fiber content of the grain was about 2.2%, and the protein content usually exceeded 11.5%. It was assumed that the new hulless barley would have a higher digestible energy content than the barley regularly grown in our area and we hoped it would provide poultrymen with a high energy grain at a lower cost than the milo and corn from the Middle West.

Before testing enzyme supplements, we set out to compare the hulless barley with other grains in chick rations. Table 1 gives the results of a typical experiment.

Chicks fed the hulless barley performed about the same as chicks fed regular barley; both types of barley were inferior to corn, milo or wheat. Since 1955 we have conducted more than 50 experiments comparing rations that contained either corn or hulless barley. Several different lots of each grain have been used in these tests. Chick growth rates, to four weeks of age averaged 17% higher with corn diets than with hulless barley diets. Feed efficiency averaged 12% higher. Beyond the four-week period, the corn continued to be superior but the difference was not so great. These results pertain only to chicks fed rations without added enzymes.

RESULTS OBTAINED BY ADDING ENZYME SUPPLEMENTS—Since 1957 we have tested many different enzyme supplements in an attempt to increase the value of hulless barley for chicks. Most of the supplements were bacterial or fungal enzyme preparations. Some are sold primarily for their amylase activity, some for their protease or lipase activity. All of the crude bacterial or fungal preparations that were tested increased growth rate and feed efficiency and improved the condition of the droppings. One supplement produced by the malting industry was also effective.

The per cent improvement produced by adding a specific preparation varied from one experiment to another, and it would be difficult to say that one supplement was definitely superior to another. In general, however, supplements that had not been processed to concentrate a particular type of enzyme activity were more effective than those which had. Preparations sold primarily for amylase content tended to be more effective than those sold primarily for protease content. One highly purified amylase did not increase the value of hulless barley diets. The crude amylase preparations that increase the value of hulless barley also include proteases. Adding one highly purified protease (Nagarse) to the hulless barley rations increased their value, although the improvement was slightly less than that obtained with crude preparations. The group at Washington State also found a purified protease to be somewhat effective.

Two recent experiments indicate that the protein level and amino acid balance of a diet affect the value of enzyme supplements. This was expected since a protease should help digest the protein of the grain and make more amino acids available to the chick, and a protease was found to increase the value of hulless barley.

More experiments will be required to determine the practical significance of these results.

Soaking hulless barley in a water solution of one of the crude bacterial amylases increased the average growth rate 21% and feed efficiency 18% in five experiments we conducted. Simple addition of the enzyme supplement to the ration produced only 11% increase in growth and an 8% increase in feed efficiency.

Adding trypsin, pancreatin, erepsin or amylopsin (all digestive enzyme preparations), or malt diastase to hulless barley chick rations did not improve performance in our experiments. Commercial ficin, bromelin, or papain (all plant proteases) reduced growth rates. Just four pounds of ficin per ton reduced growth rates. by 50%.

WHY ENZYMES ARE NEEDED—In order to make the most effective enzyme preparations at the lowest cost, we need to know what types of enzyme activity are essential, why they are needed and how they act upon the grain. In an attempt to partially clarify some of these unknowns, we added a crude bacterial amylase to a ration containing untreated hulless barley and to rations containing hulless barley soaked and dried at different temperatures. Typical relative growth rates are given in Table 2.

Apparently chicks depend upon enzymes that are either in or on the hulless barley to help them digest the grain. The amounts naturally present in hulless barley are not sufficient to allow the chick to digest this grain as completely as can be done when more enzymes are added. When the grain was soaked at room temperature these enzymes and probably others produced by microorganisms during the soaking period partially digested the grain, and little improvement was noted when more enzymes were added to the ration. When the barley was soaked at the higher temperature, these naturally present enzymes should have been inactivated and enzyme production by microorganisms during the soaking and drying periods should have been minimized. This treatment reduced the value of the grain for the chicks, and when we added an enzyme supplement, the growth rate was increased more than 25%.

Generally, when an enzyme supplement was added to a hulless barley diet, growth rate and feed efficiency were increased, and the droppings were less sticky. In some of the treatments used in our experiments, however, these improvements were not always associated. This led us to believe that the improvements noted when enzyme supplements were added to hulless barley probably resulted from a complex process instead of a single reaction. A protease may be one of the essential substances, but evidently others are needed for maximum results.

ENZYMES AND ANTIBIOTICS—Antibiotics in the diet also seemed to affect the response obtained when an enzyme supplement was added to hulless barley diets. This interaction was quite erratic, but data from more than 25 experiments provide a basis for the statement. Table 3 gives the average per cent increase in growth rate and feed efficiency that were produced when a crude bacterial amylase was added to diets containing different antibiotics or no added antibiotic.

In our first experiments, chlortetracycline was included in all rations. Later we used zinc bacitracin in all rations. When the two series were compared, the enzyme supplements apparently had produced about twice as high a response in the first series as in the second. We have since conducted several experiments to study the interactions between enzymes and several antibiotics. In these experiments the addition of erythromycin, or zinc bacitracin, or oleandomycin increased growth rate more than the addition of procaine penicillin or chlortetracycline. The responses to

Dr. J. O. Anderson

AUTHOR—Dr. Anderson has been a member of the poultry department staff at Utah State University, Logan, since 1951. He obtained his B.S. degree in poultry husbandry at Utah State in 1943. His master's and doctor's degrees in poultry nutrition were earned at the University of Maryland.

TABLE 1. Comparative Value of Hulless Barley and Other Grains for Chicks

Grain in diet	Weight 4 weeks	Feed/gain ratio
	gm.	
Corn	429	1.80
Milo	402	1.85
Wheat	390	1.86
Hulless barley	339	2.11
Barley	335	2.15

TABLE 2. Effect of Soaking Hulless Barley at Different Temperatures on the Response to Enzyme Addition

Treatment of hulless barley	Relative growth rate No added enzymes	With added enzymes
None	100	111
Soaked at room temperature, dried at 60°C	111	115
Soaked at 85-90°C dried at 85-120°C	82	105

TABLE 3. Effect of Antibiotics on the Value of Enzyme Supplements

Antibiotic added to ration	% increase produced by —enzyme supplement— Growth	Feed eff.	Number of experiments
None	11	8	7
Penicillin, procaine	16	8	4
Chlortetracycline	14	8	16
Erythromycin CNS	10	7	5
Zinc bacitracin	7	5	21
Oleandomycin	7	5	2

Japanese Visitors Tour Nutrena Farm

MINNEAPOLIS — Production systems for livestock and poultry were the center of keen interest for a six-man Japanese feed grain mission which toured the Cargill-Nutrena Research Farm at Elk River, Minn.

The group, on a month-long swing through the U.S., spent an afternoon looking over the experimental facilities at the farm and getting answers to questions from Dr. Cloy Knodt, research farm director.

Dr. Knodt explained to the group that research at the farm not only includes feeds and feeding programs, but also buildings and equipment, management methods and marketing of end products. Farmers, he said, need help in such things as choosing strains of poultry, vaccination and other health measures. Thus, a "systems research" concept governs experimental activities at the farm.

Controlled Lighting

The visitors were shown flocks of layers on [illegible] lighting tests ("stimulighting"), which Dr. Knodt says have shown increased profits of [illegible]¢ per bird annually. They also were told of outstanding results obtained by the Coccivac vaccination method of combatting coccidiosis. Some 41,000 birds have been vaccinated at the farm, and none have shown coccidiosis symptoms in up to 24 months time, Dr. Knodt said. Before the vaccination program was started, extensive losses from the disease had occurred at the farm.

The visitors showed considerable interest in this information on coccidiosis [illegible] in Japan.

The tour also included inspection of the Pigloo system for swine in which sows are placed in isolation in individual huts before farrowing. Comparisons with central farrowing systems, also at the farm, show that the Pigloo method reduces diseases, losses and labor costs, Dr. Knodt said.

Sponsored by the U.S. Feed Grains Council, the U.S. tour helped acquaint the Japanese agricultural leaders with grain production and marketing, feed manufacturing, nutrition and disease research and feeding in several stops across the country.

(THIS ARTICLE APPEARED IN FEEDSTUFFS, OCT. 29, 1960)

Nutrena Mills Inc. has used and recommended the COCCIVAC—Trithiadol® program since 1958.

They also were told of outstanding results obtained by the Coccivac vaccination method of combatting coccidiosis. Some 41,000 birds have been vaccinated at the farm, and none have shown coccidiosis symptoms in up to 24 months time, Dr. Knodt said. Before the vaccination program was started, extensive losses from the disease had occurred at the farm.

The CocciVac® program works for Nutrena

It can work for you

See your Sterwin representative or call, wire or write us for the facts.

NEW!

Single drop applicator for oral vaccination with COCCIVAC provides easy method for safe, sure, lasting protection from coxy. Free sample applicator on request.

CocciVac Type 4 is available for broilers. Types A and B for layers and roasters—and for broilers in heavy exposure areas.

Dorn and Mitchell
LABORATORIES, INC.
SUBSIDIARY OF STERLING DRUG INC
Opelika, Alabama

COCCIVAC IS ALSO SOLD BY

Sterwin Chemicals Inc.
Animal Health Division
1450 Broadway, New York 18, N. Y.

WANTED

BY MORE DEALERS AND MORE POULTRYMEN IN THE NORTHEAST THAN ANY OTHER CALCIUM PRODUCT FOR POULTRY

EGGSHELL BRAND OYSTER SHELL
a product of
OYSTER SHELL CORPORATION
BALTIMORE, MARYLAND

Buy and Sell
through
WANT ADS
—in—
FEEDSTUFFS

HONEGGER DEALERS
PROFIT from the
BIG FRANCHISE

BIG 4

Franchises available in some areas
WRITE WIRE or PHONE
Honeggers' & Co., Inc.
Fairbury, Illinois

FEED
CHIX
FARM BUILDINGS
EQUIPMENT

enzyme and zinc bacitracin supplements were not completely additive. This also appeared to be true with oleandomycin (only two experiments were conducted) and to a lesser extent with erythromycin.

FUTURE OF ENZYME SUPPLEMENTS—Only limited quantities of enzyme supplements are now added to poultry feeds in the United States. Whether more will be added in the future probably will depend on the relative price levels of barley and the other grains.

For several years the price of barley in our area was from $4 to $10 per ton less than the price of milo. Recently, beef cattle feeders have been feeding large quantities of barley, thus increasing the demand for this grain. During the past two years the prices of milo and barley have been about the same.

If the price differential of $4 to $10 per ton should occur again in this area, rations high in barley should be fed to turkeys and laying hens and more enzymes would be used. If more effective enzyme supplements could be developed their use in these rations would be more practical.

Canadian Researchers Say Swine Fed Antibiotics Do Better

WINNIPEG—Swine fed antibiotics up to marketing weight generally perform better than swine whose ration does not include antibiotics, research at the animal science department, University of Manitoba, indicates.

Groups of pigs fed various kinds of antibiotics generally gained more quickly than pigs in control groups. The antibiotics also improved feed efficiency.

According to the research results reported at the recent livestock day held at the university, Pro-Strep and oleandomycin provided the greatest economic return. An antibiotic combination known as S.P.S., or Sulfastrep, although not available in Canada, induced the greatest weight gains and the highest feed efficiency of any other antibiotic or antibiotic combination tested.

For the most part, growth response to antibiotics was greater during the growing stage from 60 to 125 lb., than during the finishing stage. Feed efficiency was greatest during the finishing stage.

All the pigs on test received a basic diet of barley supplemented with soybean meal, meat scraps, minerals and vitamins. The control group received no antibiotics during the growing and finishing stages. The other groups were fed the antibiotics in a manner similar to farm methods. As is normal on farms, the antibiotic concentration was cut in half after the pigs weighed about 125 lb.

According to the researchers, antibiotics have been used in commercial swine feeds for nearly 10 years. Apparently, due to their ability to inhibit microorganisms, the antibiotics have beneficial effects when included in the swine ration up to marketing weight.

Six antibiotics or antibiotic combinations were tested. Included were Aureomycin, Pro-Strep, Terramycin, Oleandomycin, Oleandomycin-Terramycin combined, and streptomycin-penicillin - sulphaquinoxaline combined.

A comprehensive report containing all papers presented at the livestock day is available from the university. Interested swine, sheep, dairy cattle and beef cattle producers should write the department of animal science, University of Manitoba, Winnipeg 19.

Joins Equipment Firm

ST. JOSEPH, MO. — James V. Miller, who has been manager of the St. Joseph Archer-Daniels-Midland Co., has accepted a position as general sales manager for the Sterner Industries, Minneapolis, a dairy equipment manufacturer.

VIRGINIA EGG PROMOTION—Brenda Faye (left) and Sandra Kaye Bulls, twin Virginia Egg Council princesses, are shown here calling attention to an in-store poster that will be part of the merchandising material used in the council's September "Golden Goodness" egg promotion. The 19-year-old identical twins from Richmond, Va., were chosen by the council to reign over its September egg month activities.

Information on Water Consumption Given

SAN LEANDRO, CAL.—Information on water consumption by poultry was part of a recent report on water medication by Dr. S. L. Jamison, veterinary pathologist with the California Department of Agriculture.

Dr. Jamison, in an article in a Nulaid Farmers Assn. publication, noted that water medication has become more important, and he presented suggestions on this method of treating poultry.

"With respect to water consumption of chickens and turkeys," Dr. Jamison said, "it should be kept in mind that water consumption is highly variable. The rate of water consumption in a flock may vary as much as 75% over a few days time largely depending on the weather. Of course the palatability of the drug being used and the general state of health of the flock has something to do with this also.

Rule of Thumb

"A good rule of thumb to follow is this: Chickens 2 weeks old will drink about 1/80th gallon per head per day—at 4 weeks about 1/40th gallon per head per day—at 8 weeks about 1/20th gallon—at 16 weeks and older about 1/10th gallon. These figures should be doubled for turkeys.

"Generally speaking, the amount of drug delivered to the ranch will be about 30% over the amount calculated from the above rule of thumb. The supply of drug should be kept in a clean place so that any unused drug can be picked up and returned to the supplier.

"Drugs for use in the water are generally packaged in amounts sufficient to treat 50 gal. of water. This is due to the popularity of the 50 gal. drum system of water medication. If the drug packaged as above is to be put through a water proportioner at the rate of 1 oz. per gallon, it is necessary to make a stock solution of the drug at the rate of 1 package of drug sufficient to treat 50 gal. of water to 50 oz. of water.

Four Methods

"Water medication systems can be divided into four general methods:

"1. The continuous barrel system.
"2. The intermittent barrel system.
"3. The direct proportioner system.
"4. The proportioner system using barrels."

Dairy Pellet Change

WEST SPRINGFIELD, MASS.—Eastern States Farmers Exchange has made manufacturing adjustments at its Buffalo, N.Y., mill in order to improve the physical qualities of its main dairy feed, according to Alson Brown of the cooperative's feed division.

He said milling and packaging techniques were realigned in the production of Milkerpels dairy feed. The pellets, he said, are now screened before molasses is added. This is said to reduce the incidence of lumps in the finished feed.

MACHINE OF THE MONTH

AMERICAN MADE...YOUR BEST BUY

EUREKA DUPLEX AGITATOR-MIXER

THE BIG DIFFERENCE is in the paddles...patented, adjustable loop-type paddles especially designed for blending liquids with dry ingredients. Mixing action is gentle but thorough, for perfect results. Duplex saves on space and power consumption, too. Choice of six models with capacities to 25 tons per hour.

S. HOWES CO., INC. • SILVER CREEK, N. Y.

OTHER FEATURES include silent drive, drop-bottom clean-out doors. Write for BULLETIN 650 giving full details and specifications.

Feed Sampling Procedure Outlined

SAN LEANDRO, CAL. — Procedures followed by Nulaid Farmers Assn. in sampling feeds have been reviewed by Bert Maxwell, laboratory director for the cooperative.

Writing in a Nulaid publication for producers, Mr. Maxwell pointed out the importance of sampling as a part of quality control and went on to explain some of the methods and facilities used.

Mr. Maxwell said:

"The Quality Control Laboratory uses sampling schemes and methods that are based on this scientific information pertaining to how the sample should be taken and how the observations on the sample should be interpreted.

"Our sampling scheme for determining the quality of the mixed feeds from the four NFA mills consists of having the mills send to the laboratory several feed samples each day. These samples arrive in Petaluma the day following mixing. For each batch of feed that is sampled it is required that two portions of that batch be taken. These portions are about the amount that the hen will consume during a day's time—that is, one-quarter of a pound of feed.

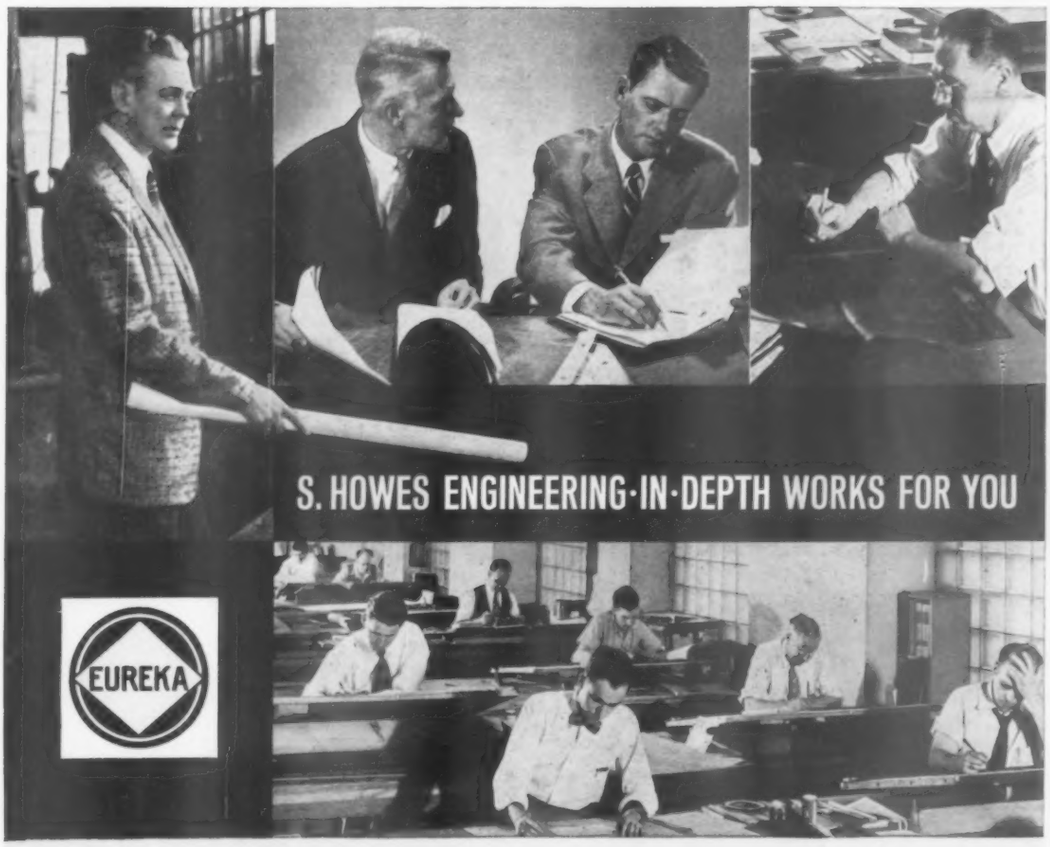
"The samples are kept separate and sent to the laboratory as separate samples of the same batch. At the laboratory the samples are run separately so we can determine not only what the average value of that batch of feed is but how well it is mixed.

"After the sample is received at the laboratory a part of each of the one-quarter pound sample is put onto the sample board for visual examination, another part is taken to determine if the vitamin premix or drug if required has been added, the remainder of the sample is thoroughly ground and further samples of the sample are taken for the various chemical tests that are to be made. These tests may include protein, calcium, phosphorus, salt, microscopic examination, moisture, fat, fiber, drugs and other analyses that will serve to determine if the feed is of the quality which we expect.

"The data from these analyses are not put into ledger books and left there as idle information. Each value that we get from a sample of feed is plotted on a special quality control graph which gives us a chance to compare this value with many other values from the same mill.

"If it appears that anything is going wrong or could go wrong at the mill, based on these statistically determined samples and procedures, we can then tell the mill what to do to correct the difficulty. In other words, we do not want to tell the mill to do something when there is nothing wrong but when there is something wrong we want to be able to tell the mill what is wrong and what it can do about it."

IN THE CRUCIAL 60's



A WHOLE STAFF of top-notch engineers is working for you... but they're on our payroll. Some are specialists in custom-equipment design... others in feed mill planning and layout. Still others concentrate on production engineering, equipment installation, service and maintenance techniques, new product development.

Individually and collectively, the wealth of experience and talent offered by these S. Howes engineers is at your service, wherever your mill is located. They know their business... and they know your business. The combination is hard to beat.

AMERICAN MADE... YOUR BEST BUY

S. HOWES COMPANY, INC. • SILVER CREEK, NEW YORK

GET FAST ACTION

CALL GEORGE WILLIS: Silver Creek, YELLOWSTONE 4-2611, collect. He'll arrange for a complete HOWES-SURVEY of your mill by the nearest Howes field engineer. No obligation.

Dairy Heifer Responses To Stilbestrol Studied

CARBONDALE, ILL.—Dairy heifers receiving 10 mg. of stilbestrol daily gained an average of 358 lb. (1.7 lb. per day) as compared to 317 lb. (1.51 lb. per day) for a control group in a 210-day experiment undertaken at Southern Illinois University.

The experimental group had a 13% increase in weight and a 21% increase in the rate of height growth, but the differences were not considered significant when analyzed statistically, SIU researchers said.

The average increase in the size of the mammary gland was about the same for both groups, and the heat periods of animals in both groups appeared to be of about the same intensity and duration.

In the tests, five Holstein and two Guernsey heifers from Southern's dairy center herds were paired on the basis of age and weight with a similar number of heifers of the same breeds and ages. The ages ranged from 4 to 14 months. One of each pair was assigned to the control group and the other to the experimental group.

The control group was fed a growing ration of 4 lb. of grain daily with free choice mixed hay, and mineralized salt and steamed bone meal as desired. The grain mix contained shelled corn, oats, soybean oil meal, wheat bran, steamed bone meal and trace mineralized salt.

The ration contained 15.6% protein and 74.3% total digestible nutrients. The experimental group received the same ration plus the 10 mg. of stilbestrol daily, researchers reported.

S.E. Group Plans 'Post-Graduate' Course

DECATUR, GA.—The Southeastern Poultry & Egg Assn. will hold its first "post-graduate" course in the executive development series Aug. 7-9, officials of the organization announced.

The management roundtable is designed for graduates of study in executive development in business management, it was stated, and will be held at the Center for Continuing Education, University of Georgia.

"With rapid changes in the poultry industry and growing pressure on management ability," stated Norman Sanders, Southeastern president, Columbia, S.C., "we feel it is particularly appropriate that Southeastern offer this service for its members who have completed the basic management course."

The management roundtable will feature two "old pros" in the executive development school series, it was noted. Dr. Bob Dince and Dr. Ted Smith will discuss business policy and personnel administration with the group.

The school will feature the playing of the "business game," a fast-moving study in management decisions which uses an electronic computer to tell how decisions work out. This "game" is designed to show strong and weak spots in decision making, it was noted.

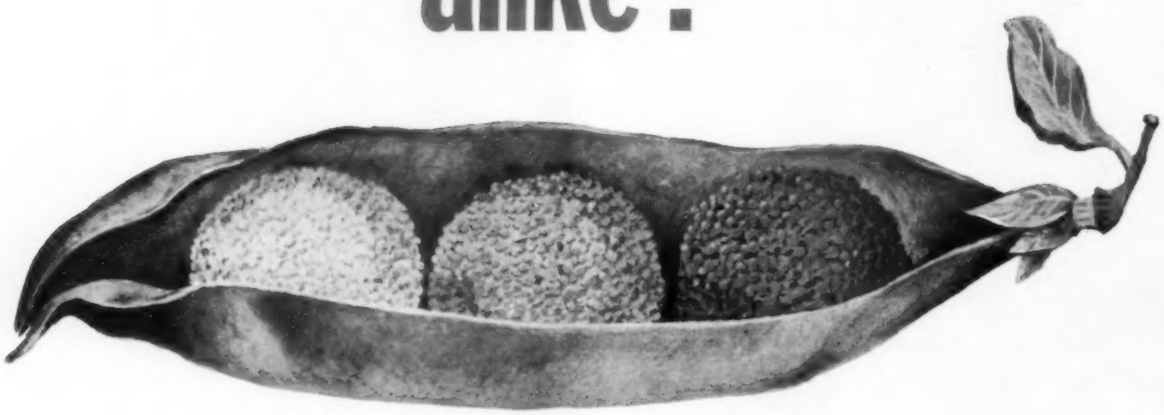
As always, officials of Southeastern said, there will be ample opportunity to compare business and management notes with others in the industry who are facing the same problems.

Application blanks may be received from the Southeastern Poultry & Egg Assn., 235 East Ponce de Leon Ave., Decatur, Ga.

T-H MIX
a complete line of packaged premixes by
THOMPSON-HAYWARD CHEMICAL CO.
P. O. Box 768, Kansas City 41, Mo.

Use Feedstuffs WANT ADS for RESULTS

Are all dicalcium phosphates alike?



...not by a long shot!

Chemical solubility and biological feeding tests conducted by independent research laboratories have proved that "all defluorinated phosphates are not alike."

But are all dicalcium phosphates alike?

A comprehensive chemical and physical analytical study of Smith-Douglass DIKAL and two competitive products was recently concluded by Cox and Gillespie, Chemists and Chemical Engineers, Richmond, Va. Their report, covering analyses and comments, follows:

Comments by Cox and Gillespie

1) DIKAL as compared to Sample A:

a) The relatively high magnesia content of Sample A (3.56%) resulting in high magnesium phosphate and magnesium carbonate is not thought to be due to impurities in limestone, but to other magnesia which has been added to raise the phosphorus solubility. Unreacted calcium carbonate and magnesium carbonate are high.

b) DIKAL has a higher dicalcium phosphate content.

c) DIKAL has a lower apatitic phosphate content. Apatitic phosphates are highly insoluble.

d) DIKAL has a higher total phosphorus (phosphate) content.

e) The phosphate in DIKAL is more soluble.

f) The titration curve shows DIKAL to be buffered—therefore will retain its solubility.

g) DIKAL is "not loaded" with magnesia—its solubility is due to chemical processing. It contains very limited amounts of unreacted limestone or magnesia.

h) DIKAL is more uniform in granulation and it has a granule hardness more resistant to abrasion.

2) DIKAL as compared to Sample B:

a) Sample B has a high aluminum phosphate (6.44%) and an iron phosphate above that of DIKAL. The unreacted limestone (calcium carbonate) is much higher (10%). The total *calcium phosphates* (mono and di-) are much lower than DIKAL—62% in comparison with 71%. The apatitic content is higher.

b) Irrespective of the unfavorable chemical comparison between sample B and DIKAL—the physical comparison is more so. In every respect, Sample B is inferior . . . including an off color and odor. The acid insoluble shows much carbon.

c) The physical advantages of DIKAL are most apparent—odor, free flowing, hardness of granule, uniformity of particle.

d) DIKAL has a higher di-calcium phosphate content, is more soluble, has lower apatitic phosphate, and a higher total phosphorus and calcium.

e) DIKAL is lower in the impurity iron phosphate, and much lower in aluminum phosphate.

f) DIKAL is substantially lower in unreacted "limestone."

g) DIKAL has less "free carbon"—shown by color and acid insoluble.

In conclusion, DIKAL is significantly more soluble than competitive products tested. Conversely, DIKAL has one-third to one-half less insoluble phosphate.

Samples represent commercially available products and are designated in the same manner as in the recently published "Phosphorus Availabilities as determined by Assays conducted by the Lime Crest Research Laboratory, Newton, New Jersey" (copies available upon request).

	Competitive dicalcium phosphate A (produced from "electric furnace" phosphoric acid)	Competitive dicalcium phosphate B (produced from "wet process" phosphoric acid)	Smith-Douglass DIKAL
Dicalcium Phosphate, $CaHPO_4$	49.78%	49.43%	63.57%
Monocalcium Phosphate $Ca(H_2PO_4)_2$	9.68	12.51	7.33
Apatitic Calcium Phosphate*	1.31	1.07	.41
Calcium Carbonate $CaCO_3$	17.68	9.78	5.73
Magnesium Phosphate $Mg(H_2PO_4)_2$	13.46	4.09	3.98
Aluminum Phosphate $AlPO_4$	.02	6.44	2.54
Iron Phosphate (Ferric) $FePO_4$	.04	5.44	4.35
Disodium Phosphate NaH_2PO_4	Trace	.41	1.64
Magnesium Carbonate $MgCO_3$	2.29	.34	.18
Calcium Sulfate $CaSO_4\ 2H_2O$	Trace	7.16	7.07
Sodium Fluosilicate Na_2SiF_6	None	.03	.26
Calcium Fluoride CaF_2	.06	None	None
Sodium Chloride, NaCl	None	None	.04
Free Phosphoric Acid	.14	.12	.16
Unreacted Silica and Carbon	1.08	.70	1.21
Moisture and Water of Crystallization**	4.46	2.48	1.53
	100.00	100.00	100.00

*Apatite content is arbitrary and approximate.
**Water of crystallization is by difference.

Let us figure the cost of DIKAL delivered to your plant.

INTEGRITY & QUALITY IN PHOSPHORUS

DIKAL IS A PRODUCT OF

SMITH-DOUGLASS

COMPANY, INC. • NORFOLK 1, VIRGINIA

SMITH-DOUGLASS DIKAL

New Coccidia Strain, Breast Blisters Discussed

By Special Correspondent

UNIVERSITY PARK, PA.—A new strain of coccidia which apparently does not respond to available coccidosis medications was described, and a research project aimed at discovering the causes of breast blisters was announced at the third semi-annual meeting of the Pennsylvania Poultry Pathologists at Pennsylvania State University.

Drs. Don Fogg and William Williams of Sterwin Chemicals, Inc., said the recently discovered strain of coccidia, which as yet has not been granted official scientific recognition, is similar to the well-known acervulina strain. Also, they noted that it cannot be readily distinguished from acervulina even by microscopic examination. Tests indicate that the new strain attacks most areas of the digestive tract, including the crop.

The problem of high incidence of breast blisters among broilers and young roasters was the main topic of a round table discussion.

It was related that investigations at Penn State indicate that this condition is of great economic importance to the industry. Losses from breast blisters were reported to be equal to and in many cases greater than CRD or leukosis.

Processors consider 25% to 35% blisters in a flock as normal. These blisters have to be trimmed from birds in order to pass inspection, and this results in downgrading of the bird and loss of income for growers and processors.

A research project is under way to investigate the causes of this condition. To date indications are that long accepted reasons for breast blister development may not be correct. First surveys and data have made it obvious that litter, litter condition, breed, strain, weight of birds and bruising have little to do with breast blister formation.

The discussion indicated that further surveys and more extensive research are needed before more definite conclusions and a solution to this problem can be reached.

Hemorrhagic disease was reported on the increase in certain areas of Pennsylvania. Most cases reported were not of the extreme or severe type, but consisted of moderate tissue involvement in the form of small hemorrhages on the thighs, breast muscles and heart. Various types of treatments were discussed. Vitamins K and C in therapeutic doses are most often used, it was stated.

Copper sulfate as a poultry medication was reviewed. Some pathologists agreed it is of value at times in cases of enteritis and suspected mold infections. Others indicated that they were not certain of copper sulfate's value as a medication. It was noted that the exact action of the chemical within the bird is not known.

The group was warned of the dangers which lie in overdosage, and it was recommended that no more than 5 lb. of copper sulfate per ton of feed be used and then not longer than 6 or 7 days at any one time.

Debeaking was discussed briefly. Several pathologists said they have noticed a significant number of mangled beaks resulting from poor debeaking technique. Their general thinking was that in most cases debeaking at the hatchery by experienced people has been good. However, some field procedures in debeaking have resulted in subnormal results that have affected the flock's well being to the point of lowered production.

Vibrionic hepatitis was discussed by Dr. Wm. Mathey of Whitmoyer Laboratories, Inc. He reviewed structural and cultural characteristics of the vibrio organism and demonstrated the use of the darkfield microscope as an aid to diagnosis. Liver bile containing vibrio organisms was used to show the microscope technique.

Transmission of vibrionic hepatitis from flock to flock and bird to bird is not entirely understood, he said. Also, evidence of disease-producing power or pathogenicity is inconclusive at present.

Hepatitis, or inflammation of the liver, can be seen in conjunction with many diseases of poultry. The vibrio organism is highly suspected as the causative agent of this one type of hepatitis, Dr. Mathey said.

The Pennsylvania poultry pathologists noted that the State Poultry Diagnostic Laboratories are now equipped with ultra-violet type microscopes. Final stages of the development of the fluorescent antibody technique are now in progress. Use of this technique will aid and speed up diagnosis of virus respiratory diseases such as Newcastle disease, infectious bronchitis and laryngotracheitis. Bacterial and fungal diseases will eventually be added to this list.

Approximately one hour is all that is needed to make a diagnosis with the ultra-violet technique, it was explained. This will be a big improvement over the days or weeks it now requires to arrive at a diagnosis of the virus respiratory diseases.

Training sessions have been started for poultry pathologists at the state laboratories. The first technique under study is for the diagnosis of Newcastle disease. This is scheduled to go into effect later this year.

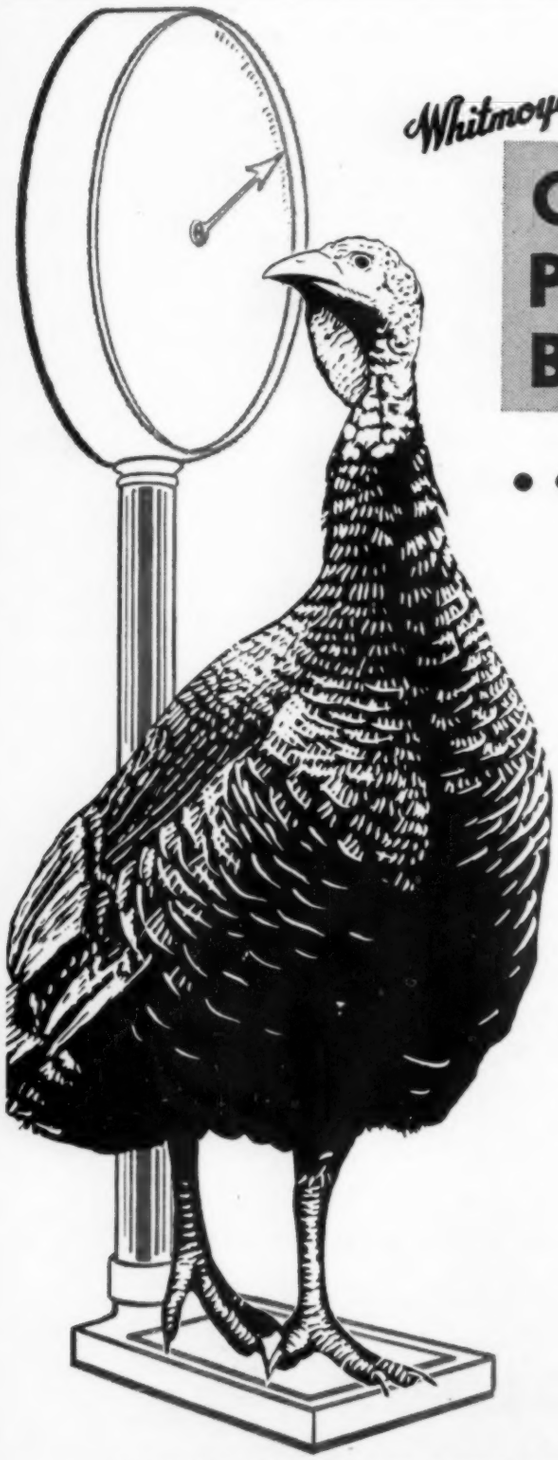
Eastern States Moves Formulation Office

WEST SPRINGFIELD, MASS. — Eastern States Farmers' Exchange has announced the transfer of its feed formulation management from the central West Springfield office to the organization's Buffalo, N.Y., mill.

Albert Groschke, who has accepted the responsibility to head the new offices, reports that more timely adjustments in feed formulas to reflect current and long-range changes in quality and price of feed ingredients are believed possible through the move.

Quality control also comes under the direction of Mr. Groschke. It has been consolidated with feed formulation management. This combining of interests is designed to facilitate rapid evaluation of proposed changes, Mr. Groschke said.

Mr. Groschke has a background in the field of animal nutrition. He joined Eastern States in 1958 following several years experience as a research worker in animal nutrition for the U.S. Department of Agriculture. He has also served as a professor at Michigan State University.



Whitmoyer

CARB-O-SEP PREVENTS BLACKHEAD

. . . not weight gains

Experience has proven that Whitmoyer CARB-O-SEP is in a class by itself when it comes to preventing blackhead without interfering with weight gains.

That's not just our experience — but also the experience of growers, feed manufacturers and college experiment station workers. Get the complete CARB-O-SEP story if you're not already enjoying CARB-O-SEP's multiple benefits. Write Dept. FS-7.

Whitmoyer LABORATORIES, INC
Manufacturing Chemists
MYERSTOWN, PENNA., U. S. A.

IN CANADA: WHITMOYER LABORATORIES, LTD. PORT CREDIT (Toronto Twp.), ONTARIO

CHOICE OF THOSE WHO WANT THE FINEST . . . AT REASONABLE COST!
W-W ROLLER MILLS
HAMMER MILLS
W-W GRINDER CORP.
2957 No. Market, Dept. 311
Wichita 19, Kansas

We'll *PROVE* that PACO and NATICO are the finest 100% Dry Molasses Products on the market today!

PACO is the superior Molasses Distillers Dried Solubles — nutritionally sound, palatable to stock and just about the *best pellet binder* you can buy! Paco is the ideal fortifier to add to your feed formula, provides balanced protein, B-vitamins, essential minerals plus unidentified growth factors. Compare 'em all—you'll choose Paco!

NATICO is the richest dry molasses product available! Add it to your feed for more profitable production and more *economical feeding costs.* Natico is an all sugar cane molasses product, adds attractive new color and fragrance to feeds . . . even makes dry home-grown grains and roughages tastier to livestock. Try Natico and watch feeding costs go down!

PRODUCTS OF **PUBLICKER INDUSTRIES INC.**, 1429 WALNUT STREET, PHILADELPHIA 2, PA. • PHONE: LOCUST 4-1400
MIDWEST SALES AGENT—The North American Trading and Import Co., 101 Arsenal St., St. Louis, Mo. • Tel.: PRospect 6-0858
SHIPMENTS FROM PHILADELPHIA, PA. AND GRETNA, LA.

for *FREE* sample mail this coupon now

Let us prove Publicker's superiority in farm feeding products. Fill in coupon and attach to your company letterhead. We'll send you free samples of Paco and/or Natico . . . America's finest products for farm feeding!

Publicker Feed Products Division
1429 Walnut Street
Philadelphia 2, Pa.

F

☐ send Paco sample
- ☐ 2-oz.
- ☐ 2-lb.
- ☐ 10-lb.
- ☐ 50-lb.

☐ send Natico sample
- ☐ 2-oz.
- ☐ 2-lb.
- ☐ 10-lb.
- ☐ 50-lb.

NAME_____

COMPANY_____

ADDRESS_____

CITY_____ ZONE_____ STATE_____

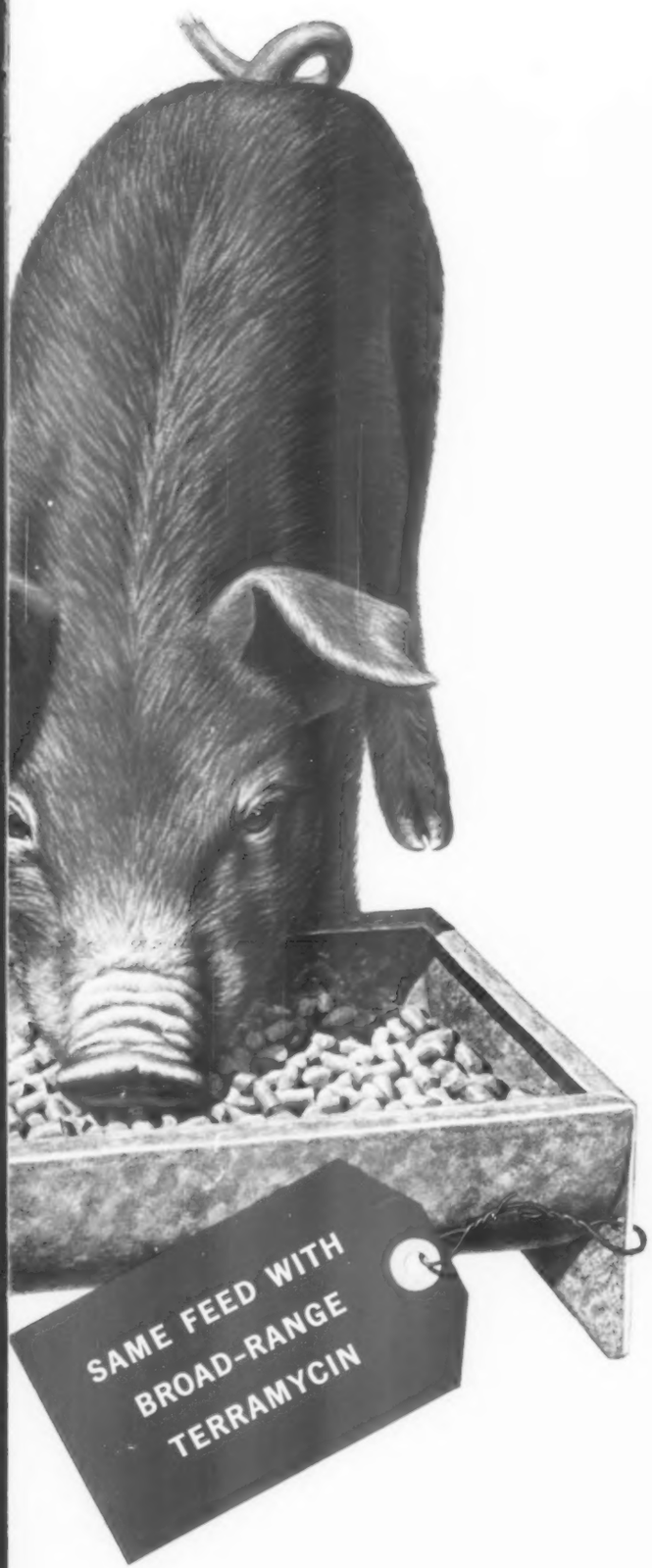
They started alike...

when you really want results...use

POTENT TERRA

BRAND OF OXYTETRACYCLINE

they look alike, but....



the pig starter on the left has an antibiotic that only does half a job

Just having an antibiotic in pig starters and pre-starters isn't enough any more to capture a performance and a sales advantage for your feeds—not when most everyone is using an antibiotic at this critical age.

But Terramycin is an antibiotic that goes the extra mile—in effectiveness and in sales appeal.

Here's how:

1. Potent Terramycin supplies extra protection with its effectiveness against an unusually broad range of disease organisms at the pre-weaning stage.

Hog producers don't know what disease organisms they have present on their place. All they ask for is results.

Their pigs need extra protection, particularly against scours. Terramycin gives that protection and has a potent disease-fighting action.

And Terramycin's unusually broad range action fights other problems* that slip by hit-or-miss narrow-range drugs. It is recommended for fighting gram negative *and* gram positive organisms—including many that have become less susceptible to narrow-spectrum gram negative *or* gram positive antibiotics.

2. Terramycin supplies effective help in getting pigs off to extra gains.

Terramycin helps pigs gain faster . . . and on less feed. Tests show up to 39% heavier weaning weight with pigs fed Terramycin. And a summary of all the published trials in scientific journals during seven years of testing shows that Terramycin, over the entire feeding period to market, increased growth in 7 out of every 8 trials. The increases ranged up to 22% . . . averaged over 7% .

The gain-producing potential of Terramycin is especially important during the pre-weaning age. New research reports from Denmark show the faster pigs grow before 8 weeks of age, the leaner their carcasses at slaughter. So this extra growth can give a potent stake in final profit when slaughter grades come in.

3. Terramycin has extra sales appeal.

Terramycin is a word that hog producers have come to recognize and depend on in their operations. Not because of promotion—even though that helps—but because of dependable results in helping them make a profit.

Terramycin helps save pigs; helps those pigs do better.

Put Terramycin in your pig starters and pre-starters. That word means more because the antibiotic does more.

Ask your Pfizer representative for complete details.

**Caused by Terramycin-susceptible organisms.*

MYCIN®

Pfizer

Chas. Pfizer & Co., Inc.
235 E. 42nd St., New York 17, N.Y.
7600 Ambassador Row, Dallas 7
230 Brighton Rd., Clifton, N. J.
6460 W. Cortland St., Chicago 35
1500 16th St., San Francisco 3
5251 Peachtree Industrial Blvd., Chamblee, Ga.
In Canada:
5330 Royalmount Rd., Montreal 9, P. Q.

Pfizer is represented in more than 100 countries with the following Area Headquarters offices
Pfizer International Subsidiaries
Folkestone, Kent, England
Pfizer Corporation
Rome, Italy
Pfizer de Mexico S. A.
Mexico D. F., Mexico
Pfizer Corporation do Brasil
Rio de Janeiro, Brazil
Pfizer Corporation
Hong Kong, Br. Cr. Colony

Science for the world's well-being®

"so why not order SUPER CAL (pure reef oyster shell flour with trace minerals from the sea) with your next shipment of SHELLBUILDER poultry-size pure reef oyster shell."

SHELLBUILDER COMPANY Marine Building • Houston, Texas

Arizona Studies Space Needed by Layers

TUCSON, ARIZ.—"With the development of smaller birds and improved housing, even 2 sq. ft. per bird may be too much to be economically sound," Dr. B. L. Reid said regarding studies underway at the University of Arizona on the space requirements for laying hens.

The exact amount of floor space a poultryman should allow cannot be stated exactly, since it depends upon the facilities, ventilation, season of year and type of bird the poultryman is using, the poultry scientist said.

The University of Arizona College of Agriculture has a study in progress which is comparing 2 sq. ft. of space per bird versus 2½ sq. ft. with concrete floors, Dr. Reid said.

"Results through five months of lay, show a 1½% advantage in egg production and 3½% less mortality by allowing ½ sq. ft. more floor space per bird, Dr. Reid reports.

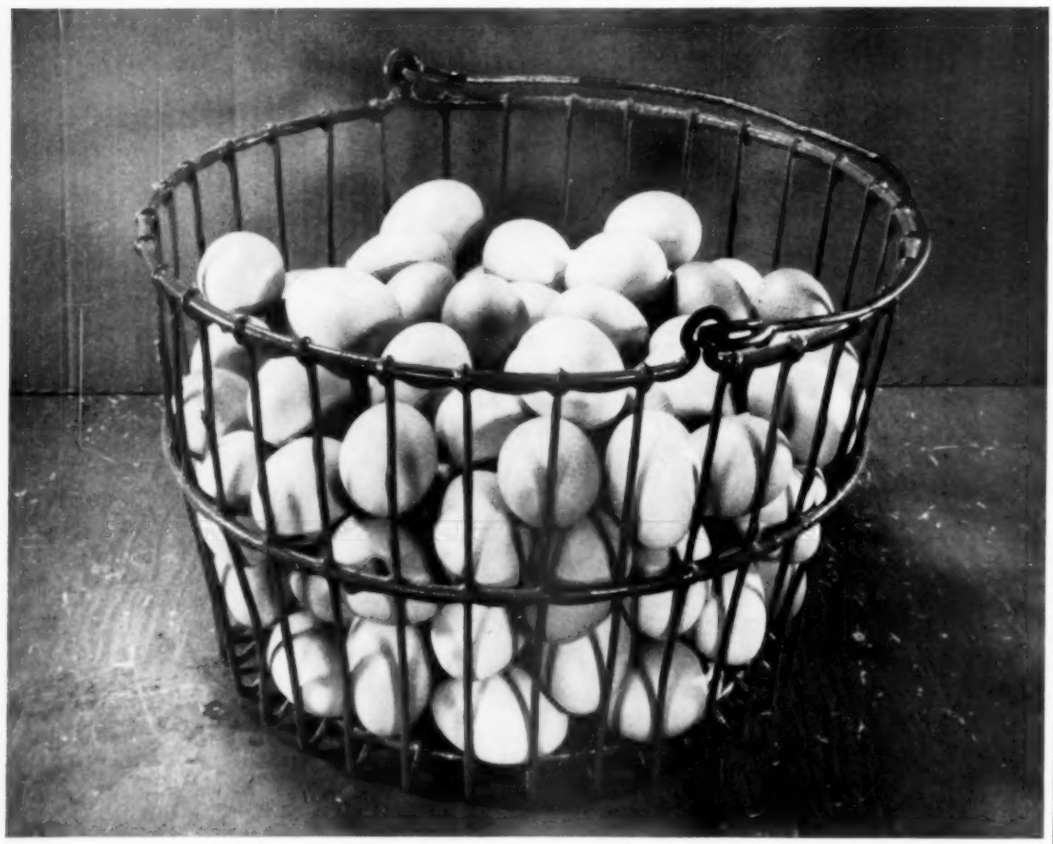
However, the economic return to poultry producers is something different, he said.

"During this period, the return over feed cost only per bird amounted to $2.50 at 2½ sq. ft., compared to $2.46 at 2 sq. ft. per bird—$130 less per 1,000 birds started," Dr. Reid explained.

If these figures are considered as income per 2,000 sq. ft. of floor space, and considering feed cost and depreciation on the building and equipment, the advantage then is $360 in favor of the 2 sq. ft. of space per bird, he said.

A similar study in Iowa showed much the same thing, Dr. Reid added. When birds were allowed less floor space, less production was obtained and more mortality is likely, but the total income was greater for the 1½ sq. ft. as compared to 2½ or 3½ sq. ft. used in that study.

Dr. Reid concluded that for Arizona, not less than 1½ sq. ft. per bird should be provided for floor-housed birds, and that at least 2 sq. ft. of space be allowed for chickens during the summer months.



How these eggs are making integration **more profitable!**

For one thing there are more of them. Among the proven meat-type females which bird consistently lays the most eggs? The Nichols 108, of course. But now the big news is what's *in* these eggs—the offspring. In the first hatch of the 15th Maine Test the three 108 Cross entries, sired by three different males, finished 2nd, 3rd and 4th in points spread out of 20 entries! (The winning entry came from a cross far behind in egg production.) What's more, recent field records from the most important broiler areas show that today's 108 Crosses are matching the best records in growth and conversion. Under intense research pressure America's first crossbred female is realizing its high potential as a meat-type breeder. Meantime 108 flocks continue to average close to 160 *hatching* eggs per hen housed!

It used to take an integrator who produced his own hatching eggs to appreciate the 108 fully. Not now. Today's 108 produces both the eggs *and* the offspring to protect your margin no matter what the market price of broilers. Isn't it high time you put these eggs to work for you?

Nichols 108's are available at all Nichols and Arbor Acres branches: Brunswick, Me., Skowhegan, Me., Concord, N. C., Blairsville, Ga., Dahlonega, Ga., Albertville, Ala. Carthage, Miss., Springdale, Ark., Tenaha, Tex., Thorntown, Ind., San Luis Obispo, Calif.

Nichols **POULTRY FARM, INC.**
BRUNSWICK, MAINE

To Market Cooked Poultry Products

WEST SPRINGFIELD, MASS.—Egg and poultry marketing activities of the Eastern States Farmers Exchange were described in the cooperative's annual report. In addition to outlining developments and changes in egg marketing, the report told of work on cooked poultry meat products as a potential outlet for fowl.

Excerpts from Report

Excerpts from the report on poultry marketing follow:

"Another development has been a study of poultry products. Eastern States management has a strong conviction that a better job of marketing farm products in general needs to be done. Poultrymen in the Northeast have suffered several years from inadequate returns for their fowl, and we have chosen this farm product as a starter to see if marketing fowl can in some way be accomplished to better advantage.

"In studying retail meat sales, we found that fresh, ice-packed fowl is relatively a slow mover due to competition from other poultry as well as red meats. Marketing experts tell us that it is highly probable that per capita consumption of fowl in this form has reached its peak.

Convenience Items

"This emphasized a trend toward 'convenience' and 'precooked items,' and influenced us to consider the field of cooked poultry meat products as a potential outlet for fowl. Colleges such as Cornell, Penn State University, and New England states' universities have supported this approach, and encouraged our research in new poultry products.

"We have used the professional services of a food chemist and new products consultant to experiment with several new items. After much testing, eliminating, and redesigning, we are about ready to market-test seven different items under Eastern States proposed brand name 'Country Best.'

"We are also considering production of a frozen French toast formulated by Cornell University as a potential means of increasing per capita consumption of eggs. This product has been successfully market tested by Cornell in New York State and, in addition to getting more eggs consumed, it offers an outlet for the cracked and broken eggs resulting from our egg processing operations."

Traveler Says Broiler, Egg Production Is On Increase in Europe

SPRINGDALE, ARK.—Broiler production is increasing in most European countries, but before it can compare with that of the U.S., there are several problems that must be solved. Egg production from commercial layers is also on a steady increase, but the same problems also confront it.

These are the opinions of Gail Brown, who with his father, Jeff D. Brown, form the company of Jeff D. Brown & Co. of Springdale. They have large broiler and hatchery interests and also are producing the Ledbrest cockerels.

It was partly in the interests of their cockerels that Mr. Brown spent four weeks touring Europe. He visited such countries as Italy, Switzerland, France, Denmark, Germany, England and others.

He says the biggest problem facing European producers is the scarcity and high price of feed. Most of the grain is imported from Argentina and Russia, though a considerable tonnage of soybean meal is shipped in from the U.S.

"Because of the shortage of land, it doesn't look possible that they will ever be able to grow their own feed," said Mr. Brown. "In most countries feed costs are about twice as high as here at home."

Market for Milo

He says that milo is finding a market in northern Europe, mainly because the housewives buying broilers want a light-colored bird. So producers are feeding milo which helps bleach the skin. In southern Europe people pay no attention to the color of the skin, so feeds containing high carotene content are widely used.

Mr. Brown observed a few modern feed mills, but most were old and antiquated. Some have been used for many years and are repaired as parts wear out. There are a multitude of these small mills, much as there was in the U.S. several decades ago.

Feed nutrition is also behind that in the U.S., particularly in poultry feeding. Whereas there are several agricultural schools which graduate good veterinarians, thus far there has not been much stress on poultry nutrition and feeding.

While broilers are increasing steadily in most countries, the feed dealer's role is much like it was here a score of years ago. He simply sells the feed and takes no risk of production. The only way in which most dealers are involved financially is that some of them may sell feed on credit.

Chicken Delicacy

One bright part of the European broiler picture is that chicken is still considered a delicacy in most European cities, and producers get a better price than here. However, production prices are higher and many working people cannot afford to buy chicken regularly.

"Labor is cheap," he pointed out. "Some workers get only 50¢ an hour, but the employer must contribute another 25¢ for a rather elaborate system of pensions, unemployment and other benefits. So, in reality, the man making 50¢ an hour must buy food based on a production cost of 75¢, which cuts down on his purchasing power."

Broiler producers are far behind Americans in presenting an attractive bird. Mr. Brown found no cut-up birds in colorful packaging. He says that in Belgium the grocers were offering dressed whole birds at $1 apiece regardless of size. Also, there is no uniformity of size among broilers sold. In some countries broilers are sold at a live weight of 2½ lb., while in other areas the producers sell them at 4 lb.

"There is a lot of interest in increasing broiler and egg production," Mr. Brown pointed out. "Those countries are determined to produce their own chickens and eggs, and are beginning to make some real progress. However, it may be a long time before they reach the efficiency found in this country."

Poultry breeders of both broiler and egg type chickens are finding a growing market in Europe. The strains are badly depleted, so the more progressive poultry men are trying to improve their flocks by the importation of American breeding stock.

Don't Mix Without CK Econolass

THE ECONOMICAL DRY BLACKSTRAP MOLASSES INGREDIENT

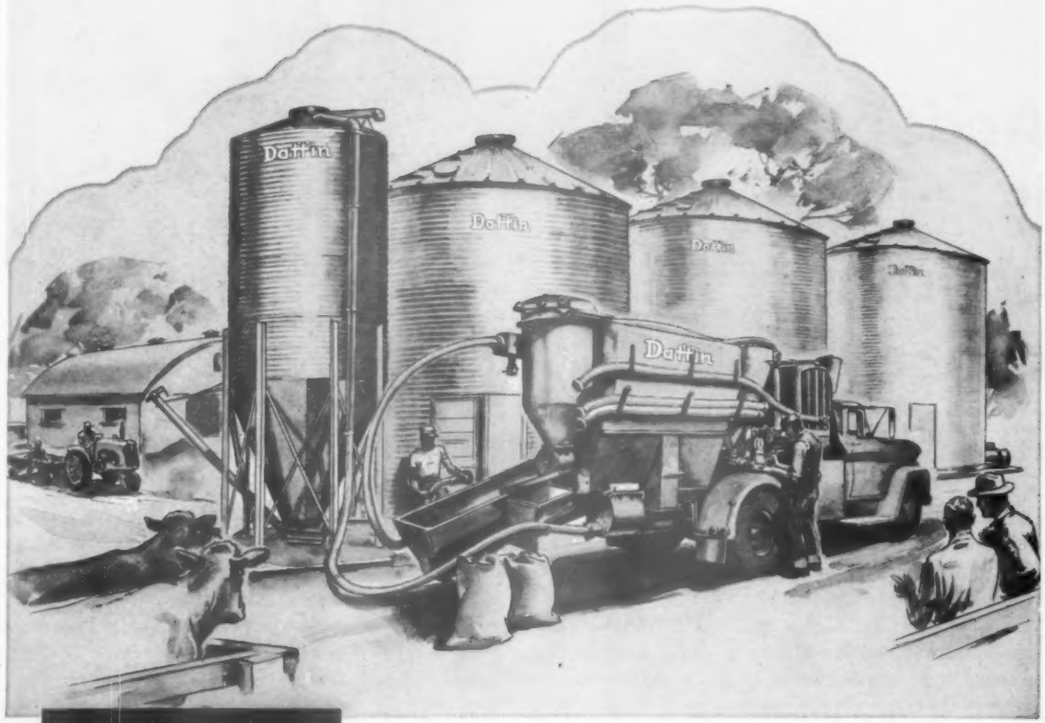
CK Processing Company

Muscatine, Iowa • PH AM 3-3096

Daffin

IS Mobile Milling!

Daffin Is Your Opportunity. Write for full story, today.



Daffin

COMPLETE, ON-THE-FARM, FEED AND GRAIN-BANKING SYSTEMS
WORLD FAMOUS FEEDMOBILES • PELLETMOBILES • DAFFINAIRE
TRUCK UNLOADERS • GRAIN AND FEED STORAGE EQUIPMENT

SERVICE PARTS DEPOTS: Alabama-Birmingham-Montgomery • Arkansas-North Little Rock • Georgia-Perry • Idaho-Twin Falls • Illinois-Springfield • Indiana-Indianapolis • Iowa-Cedar Rapids • Kentucky-Shelbyville Michigan-Detroit-Grand Rapids • Minnesota-Rochester • Mississippi-Jackson • Missouri-North Kansas City • Nebraska-Omaha • New York-Syracuse-Tonawanda • North Carolina-Laurinburg • North Dakota-Bismarck-Fargo-Minot • Ohio-Cleveland-Dayton-North Lima-Toledo • Oklahoma-Oklahoma City-Tulsa • Pennsylvania-Lancaster-Wexford • South Dakota-Sioux Falls • Tennessee-Knoxville-Memphis Texas-Dallas-Houston-San Antonio • Virginia-Falls Church-Richmond-West Norfolk • Wisconsin-Oconomowoc • Canada: Alberta-Edmonton • Manitoba-Winnipeg • Ontario-Toronto • Quebec-Drummondville

DAFFIN MANUFACTURING, DIVISION OF DAFFIN CORP., 3279 NORTH PRINCE ST., LANCASTER, PA.

Fleischmann's F·I·D·Y
IRRADIATED DRY YEAST
RICH IN VITAMIN D FOR FOUR-FOOTED ANIMALS

Missouri Research on Swine Feeding, Breeding and Carcasses Reported

COLUMBIA, MO.—A number of research projects on swine were among the reports given at the Livestock Day held at the University of Missouri here.

Topics included the care of breeding sows, carcass characteristics and consumer acceptance of light weight hogs, effects of certain vitamins and minerals on the stability of cured ham pigments, effect of level of feeding during gestation on sow performance and protein supplements for growing-finishing swine in dry lot and on pasture. (Reports on beef cattle and sheep research appeared in an earlier issue of Feedstuffs.)

CARE OF BREEDING SOWS—"Production of thrifty pigs starts before the sows are bred," Ben Dean, University of Missouri swine researcher, told persons attending the event.

Mr. Dean reported that feeding antibiotics to sows at breeding time boosted size of litters farrowed by 18 per cent and the number of pigs weaned by 25 per cent in the university test. One half gram of antibiotic was fed per head per day for 10 days to two weeks, beginning three to five days before breeding.

Rations for pregnant sows can be too high in energy, Mr. Dean cautioned. But he stressed the need for adequate amounts of protein, vitamins and minerals.

"A gain of 80 to 100 pounds during gestation for gilts in excellent breeding condition gave best results," he said. This gain required about 5 pounds of concentrate per head per day in dry lot and 3½ to 4 lb. on pasture. Heavier feeding had no significant effect on number of pigs farrowed but it did reduce the number of pigs weaned.

For maximum milk production, sows should be put on full feed soon after farrowing. Self-feeding nursing sows has given satisfactory results and eliminated a lot of hand labor in the university herd. Sows are turned out to self-feeders for one to two hours a day, starting the day after farrowing.

"Providing both creep feed and water for pigs as early as three days after they are farrowed is a good practice," Mr. Dean said. "When this is done most pigs will be eating and drinking regularly at a week of age."

"Having water available is a key point," he commented. "Pigs will eat more creep ration if they can get a drink, even though they are nursing the sow."

When hogs are on pasture, creeps should be located near the sleeping quarters.

The university specialist prefers crushed corn cobs to straw for bedding in farrowing stalls. Cobs stay drier and remain in place better, he said.

Losses from crowding and crushing may occur when sows and young pigs are first moved to pasture, Mr. Dean noted. Often, too many try to crowd into one shed. To avoid these losses, Mr. Dean suggested locking the sow and pigs in a one-sow shelter the first night on pasture. After that they will usually consider this shelter their home. In some cases, a little guidance may be needed for a night or two after that.

Where a number of sows are kept in the same shelter, Mr. Dean suggested taking only one sow per day to the shelter. That way each sow and her pigs will tend to pick out an area of the shelter as their own.

Mr. Dean told the Livestock Day audience that the herdsman was still the one most important factor in producing thrifty pigs. And, he said thrifty, healthy pigs can be produced either on pasture or in confinement.

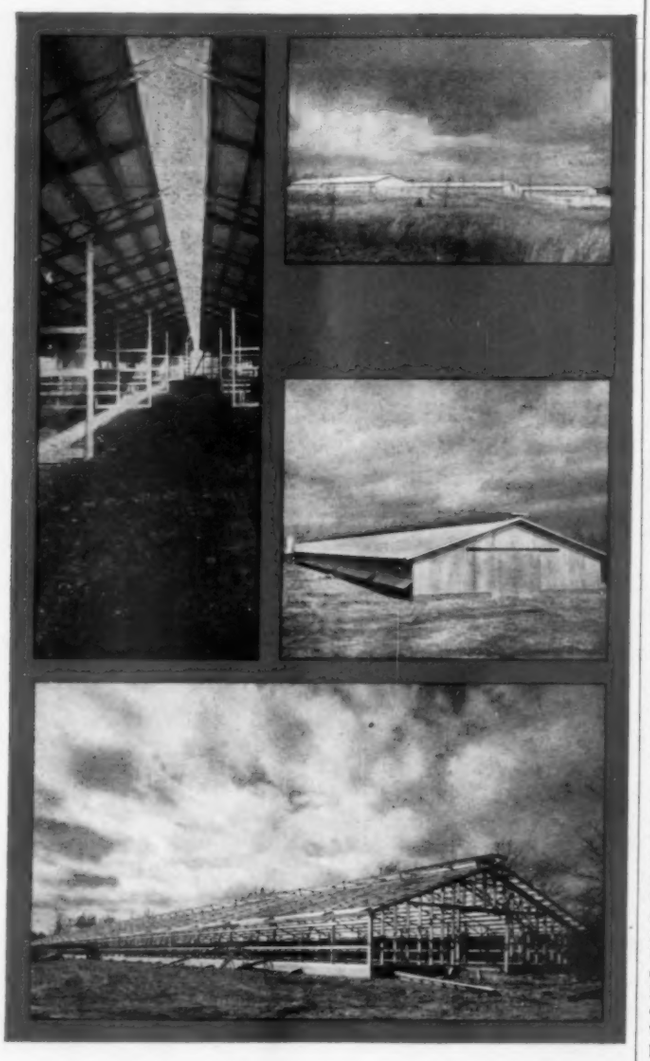
CARCASS CHARACTERISTICS AND CONSUMER ACCEPTANCE OF LIGHT WEIGHT HOGS—Conclusions of this test indicate that slaughter of hogs at weights as light as 125 lb. does not present any problems in palatability as judged by a sample of customers.

It was noted that cuts from 165 lb. hogs might be more readily accepted than those from 125 lb. hogs because the size of the former would be more like conventional cuts, according to Dr. S. E. Zobrisky, Hugh Leach, V. J. Rhodes and Dr. H. D. Naumann. However, they noted that acceptance of size as such cannot be determined accurately except by merchandising experiments.

The four researchers said that the greatest percentage of increase of the lean cuts (ham, loin, picnic and Boston butt) and bone cuts (neck bone and spare ribs) occurred during the 125-165 lb. live weight interval. Conversely, they noted, the greatest percentage increase in fat cuts (carcass trim fat, backfat, leaf fat and belly) occurred during the 165-205 lb. live weight interval.

They said, "Length of ham appeared to be directly associated with the increase in lean cuts; length of ham increased two times more during the 125-165 lb. interval than during the 165-205 lb. live weight interval. Circumference of ham, depth of body and width of body and shoulder were more closely associated with gain in live weight than with yield of lean or fat cuts. Backfat thickness paralleled the increase in weight of fat cuts. The cured cuts from the lighter weight hogs lost a slightly greater percentage of their weight during the smoking process than similar cuts from the heavier hogs."

EFFECTS OF CERTAIN VITAMINS AND MINERALS ON STABILITY OF CURED HAM PIGMENTS—This study was undertaken due to the problem of discoloration of red-pink "cured ham pigments" by



Acceptance is building these houses

Like Peterson Crosses the Peterson Breeding Farm is growing faster than ever before. One new laying house after another is rising in Decatur to satisfy the rising demand for Peterson Males. More and more new customers, some of the biggest and best known men in broilers—men who know their costs—have switched to our male. Repeat orders are arriving as usual. Our obligation to the industry has never been greater.

We're building so that we can continue to maintain *all* of our flocks under our own close supervision . . . to keep our program of progeny testing growing as fast as our sales . . . to see that every Peterson Male you buy will perform up to the standard that is swinging so much new business our way. Already we're producing today's Peterson Male in volume, but since we have never rushed our breeding program you may not always be able to get the delivery you want. If you order right now though, your chances are good.

PETERSON breeding farm

DECATUR, ARKANSAS

Peterson MALE

BRANCHES: HAMPTON, CONN., GAINESVILLE, GA. AND THORNTOWN, IND. FOREIGN DISTRIBUTORS: LE FOEIL, FRANCE, BARCELONA, SPAIN, MILAN AND FONZASO, ITALY

FOR... SMITH'S FISH MEAL

and other

Products of Progress

THE FOX CO.

NEWFIELD, NEW JERSEY

fluorescent lighting at the retail level, according to Dr. Milton E. Bailey and Richard E. Frame. They said that ham slices discolored under these conditions are not acceptable to consumers and are usually used in the formulation of less-expensive processed meats. These decreases in profits are then felt by all concerned in meat production, they commented.

The two researchers said, "Results from recent studies indicate that vitamin C not only shortens the time necessary to cure hams with regular curing salts to five days, but that the 'cured ham pigments' formed by this accelerated process are more stable to fluorescent light irradiation than non-treated hams. The addition of pyridoxamine in the presence of vitamin C further stabilizes these pigments; even better protection is obtained by using orthophosphate buffer at low acidity."

They also noted, "Results from a subsequent study indicated that slices from hams treated with nicotinamide and vitamin C were more stable to light irradiation than slices from hams treated with vitamin C alone."

EFFECT OF LEVEL OF FEEDING DURING GESTATION ON SOW PERFORMANCE—B. T. Dean and Dr. L. F. Tribble noted that under the conditions of these experiments where adequate quantities of protein, vitamins and minerals were fed, reducing gains during the gestation to two-thirds to three-fourths of normally recommended gains by limiting the corn (energy) intake was beneficial to reproduction for both sows and gilts in terms of number of pigs farrowed and weaned per litter.

They also noted that between 80 and 100 lb. appears to be the optimum weight gain for gilts during gestation. Gilts were well grown and in good condition at breeding.

"Up to 150 lb. of feed, mostly corn, was saved by limiting the feed during gestation and preventing the sows from becoming too fat," the research men said.

They commented that, on the average, both limited fed sows and gilts weaned a higher percentage of the pigs farrowed than those fed normal levels of feed. Limited fed sows and gilts farrowed more easily and had fewer stillborn pigs than those fed normally.

PROTEIN SUPPLEMENTS FOR GROWING-FINISHING SWINE IN DRY LOT AND ON PASTURE—Protein supplements composed of mixtures of either three or two parts of soybean oil meal and one part of meat and bone scraps make a satisfactory protein supplement to be fed free choice with shelled corn for growing-fattening pigs on pasture or dry lot, according to a report presented by Dr. L. F. Tribble.

However, he commented, "This mixture must be properly supplemented with vitamins, minerals and antibiotics."

Moisture Tester Day

JACKSON, MICH.—Over 100 grain elevators were represented at a recent moisture tester day program held here by McLaughlin, Ward & Co. Officials said that over 180 Steinlite testers were checked for accuracy by using new plastic pellets, which have a stabilized moisture content.

Achard L. Ward, president of McLaughlin-Ward, said that this was the first time the grain trade in Michigan, northern Indiana and northwestern Ohio has had an opportunity to attend a Steinlite demonstration and have their testers and gram scales checked for accuracy.

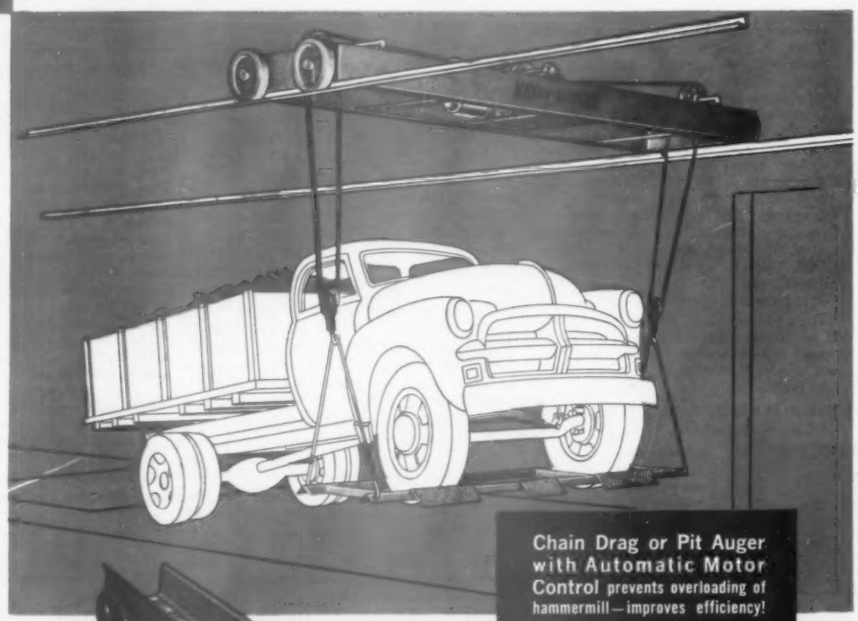
MILL FACILITIES SOLD

CHASKA, MINN. — The Carver County Farm Bureau Service Assn. has purchased the business and facilities of the Victoria Feed Mill in Chaska from B. T. Larson.

"team up" these 2 for extra grain handling profits

KELLY DUPLEX
electric truck hoist

Designed to unload trucks in less time, with less power . . . the Kelly Duplex Electric Truck Hoist combines all welded steel construction, tough steel cable, heavy duty motor and special gearing to lift loads with absolute ease and safety. A positive action switch controls all raising and lowering—lifts truck to any height up to 15 feet, stops operation instantly at any point, holds truck at desired angle for any length of time. The entire hoist moves freely on an overhead steel track (so flanged that wheels cannot "jump the track" regardless of stress) . . . and is easily positioned for unloading into any number of dump sinks. Available with either a ramp type or a mat type cradle, this machine can be furnished in any width and can be powered to meet your requirements.



KELLY DUPLEX
single and double chain drags

Unsurpassed for steady, even delivery of grain and ear corn. Single chain drags have V-trough construction—10" wide bed—choice of wood or steel box. Double chain drags are made entirely of welded steel—are available with 12", 16", 20" or 24" wide bed. All drags can be made in any length with either single or double gear reduction . . . can be powered by motor or belt drive . . . and can be furnished with variable speed control.

Chain Drag or Pit Auger with Automatic Motor Control prevents overloading of hammermill—improves efficiency!

Control connects to both hammermill motor and feeder motor. If hammermill motor shows overload from excessively rapid feeding—the motor on the feeder automatically stops until load passes—then automatically starts again.

CLIP ALONG THIS LINE . . . FOLD OVER, FASTEN . . . AND MAIL TODAY!

FIRST CLASS
Permit No. 72
SPRINGFIELD, OHIO

VIA AIR MAIL

BUSINESS REPLY ENVELOPE
No postage necessary if mailed in the United States

—POSTAGE WILL BE PAID BY—

The Duplex Mill and Manufacturing Company
Springfield, Ohio

FOLD OVER ON THIS LINE . . . FASTEN (STAPLE, GLUE, TAPE)

The Duplex Mill & Mfg. Co.
Springfield, Ohio

Yes, I'm interested in KELLY DUPLEX machinery. Without obligation, please send me complete information on the items checked.

☐ Information on free mill planning and layout service.

☐ Electric Truck Hoist
☐ Chain Drag
☐ Pit Auger
☐ Vertical Feed Mixer
☐ Hammermills
☐ Twin Molasses Mixer
☐ Vertical Screw Elevator
☐ Portable Screw Elevator
☐ Bucket Elevator
☐ Corn Crusher-Regulator
☐ Corn Sheller with Blowers
☐ Regular Corn Sheller
☐ Pitless Corn Sheller
☐ Combined Sheller-Cleaner
☐ Gyrating Cleaner
☐ Corn Scalper
☐ Corn Cutter and Grader
☐ Cob Crusher
☐ Electric Bag Cleaner
☐ Forced Air Carloader
☐ Magnetic Separator
☐ Grain Feeder
☐ Grain Blower
☐ Complete Line Catalog

NAME _____
TITLE _____
FIRM _____ PHONE _____
CITY _____ STATE _____

FEEDSTUFFS

ERIEZ Magnetic Minute

60 seconds that will help you improve operating efficiency.

Protect Your MACHINERY, PRODUCTION, and REPUTATION AGAINST DANGEROUS TRAMP IRON

Get positive protection against costly, damaging tramp iron and fine ferrous contamination with Erium® Powered Permanent Plate Magnets. Here are a few of the many reasons why Eriez Magnetic Separators are your best buy:

- GREATEST SELECTION: Choose from 14 magnetic strengths, and many special features for most efficient performance on your particular separating job.
- USE ANYWHERE: In Chutes, spouts, ducts, feed tables and housings, and for suspension over screens, moving conveyors, etc.
- RUGGED CONSTRUCTION: All models have magnetic element permanently sealed against loss of magnetic strength . . . will withstand severest applications.
- FLEXIBLE: Uniform installation dimensions makes all models and strengths interchangeable.

Take advantage of the most versatile line available. Get the model with the Erium® power source that meets your exact needs. Full data in our new bulletin. Write to:

ERIEZ MANUFACTURING CO.
118U Magnet Dr., Erie, Pa.

MAGNA-THOUGHT

The goodwill a company enjoys rests, in the final analysis, on the intrinsic quality of its products.

E. C. MILLER
Executive Vice President

ERIEZ

A GROWTH COMPANY . . .
10 NEW PRODUCTS IN THE LAST 5 YEARS

Poultry Feed Additives

Use of Vitamins, Drugs, Flavor, Amino Acids, Minerals, Enzymes Discussed

COLLEGE STATION, TEXAS—Suggestions on vitamin additions to poultry feeds and comments on research on and use of other additives were part of a recent paper by Dr. J. R. Couch, poultry nutritionist at Texas A & M College.

The report was prepared for presentation at the convention of the Canadian Feed Manufacturers Assn.

It included data and comments on antibiotic and arsonic acid use, antifungal agents, Texas research and field experience with a flavor added to poultry feeds, amino acid studies, trace mineral findings, and indications from enzyme work that proteases and cellulases may find a place in poultry feeds.

Dr. Couch's suggested levels for additions of vitamins and certain other microingredients to poultry feeds are given in Tables 1 and 2.

Excerpts from the report follow:

ANTIBIOTICS—Growth Stimulating Activity: The drugs are now added routinely at a nutritional level of 4 to 20 gm. per ton. . . The drugs do not always produce a growth response. There are those in the feed industry who question the value of the continued use of antibiotics in feeds. Experiments carried out at a number of research stations have illustrated the necessity of such continuous feeding. If experiments are conducted in a particular location for an extended period of time, the antibiotic response will be apparent even though there may be the odd instance in which no growth stimulation was obtained. When the antibiotics fail to stimulate growth, it simply means that the "disease level" has temporarily regressed but may appear again at any time.

The antibiotics which are presently accepted as feed additives are chlortetracycline, oxytetracycline, bacitracin, penicillin and streptomycin. Combinations of the antibiotics have been reported by some laboratories to be more effective than the continuous use of a single one. Suggestions have also been made to the effect that it is wise to change the antibiotic used in the feed from time to time. The use of combinations of the drugs would not necessitate such a change.

Antibiotic Potentiation: The potentiation of the broad-spectrum antibiotics was first reported approximately three years ago. Such increases can be effected by adding 10 pounds of terephthalic acid to the feed or by using a very low level of calcium.

Calcium ions reduce the absorption of broad spectrum antibiotics from the gastro-intestinal tract, and when the calcium level in the feed formula is reduced, the antibiotic concentration in the blood is increased. The calcium in calcium salts such as calcium sulfate is not as readily available as that from calcium carbonate. Calcium sulfate has been used under field conditions to potentiate broad spectrum antibiotics.

A low calcium feed may be used for a limited period not to exceed five days with growing stock and not to exceed one day with laying hens with some success. The level of calcium to use under such circumstances varies from 0.2 to 0.4% in the complete formula. Unless a phosphorus source such as sodium acid phosphate is available, it is likewise necessary to remove the phosphorus when using a low calcium formula.

The degree of potentiation which may be obtained through the potentiating agents described above ranges from 2 to 4 times.

Antibiotics in the U.S. are being used in prestarters at levels ranging from 100 to 200 grams per ton of broad spectrum for turkeys and chickens. This high level antibiotic feed is used for the first three weeks or until approximately 1 pound of the formula is consumed per bird. Broiler producers are using a potentiated feed of the low calcium type with 200 grams of antibiotic between the 5th and 6th weeks in growing broilers. Such field practices have tended to

TABLE 2. Turkey Feeds: Vitamins and Other Micronutrients Added as Indicated on a Per Ton Basis

Ingredients	Turkey prestarter	Turkey starter	Turkey grower	Turkey finisher	Turkey layer & breeder
Vitamin A (stabilized I.U.)	12,000,000	9,000,000	6,000,000	4,000,000	9,000,000
Vitamin D_3 (I.C.U.)	4,000,000	3,000,000	2,000,000	2,000,000	4,000,000
Vitamin E (I.U.)	10,000	6,000	4,000	2,000	30,000
Riboflavin (gm.)	6	4	4	3	6
Calcium pantothenate (gm.)	16	12	10	8	16
Niacin (gm.)	80	50	40	20	50
Choline chloride (gm.)	1,000	800	600	400	800
Vitamin B_{12} (mg.)	16	12	12	10	12
Vitamin K (menadione sodium bisulfite gm.)	2	2	2	2	2
Antibiotic*	100	20	20	10	20
Arsonic acid (45 gm. 3-nitro-4-hydroxyphenylarsonic or 90 gm. arsanilic)	....	....	....	....	....

*Aureomycin, Terramycin, Penicillin, Bacitracin, Streptomycin.

TABLE 1. Feeds for Chickens: Vitamins and Other Micronutrients Added on a Per Ton Basis

Micronutrients	The Pullet Rearing Program: Chick starter	Pullet grower	Pullet developer	Broiler Feeding: Broiler starter	Broiler finisher	Laying & Breeder Hens: Laying hens	Breeder hens
Vitamin A (stabilized I.U.)	5,000,000	4,000,000	4,000,000	6,000,000	4,000,000	4,500,000	6,000,000
Vitamin D_3 (I.C.U.)	1,500,000	1,000,000	1,000,000	2,000,000	1,500,000	1,500,000	2,000,000
Vitamin E (I.U.)	4,000	3,000	2,000	5,000	4,000	5,000	6,000
Riboflavin (gm.)	4	3	3	4	3	4	4
Calcium pantothenate (gm.)	10	8	8	10	8	8	10
Niacin (gm.)	25	20	20	30	25	25	30
Vitamin B_{12} (mg.)	10	8	8	12	10	10	12
Choline chloride (gm.)	200	200	200	600	400	500	600
Vitamin K (menadione sodium bisulfite (gm.)	2	1	1	2	2	2	2
Antibiotic* (single combination gm.)	15	10	10	20	15	15	20
Arsonic acid (45 gm. 3-nitro-4-hydroxy-phenylarsonic or 90 gm. arsenilic)	....	....	....	....	....	....	....

*Aureomycin, Terramycin, Penicillin, Bacitracin, Streptomycin.

Best Meal of the day

Yours, when its formulated with Sunflower Brand soybean meal! Item: Sunflower Brand starts with the *best* soybeans grown. Item: we "cook" them by a special process to develop highest palatibility and digestibility. Item: Guaranteed OVER 44% protein. Get the complete story from:

Kansas Soya Products Co., Inc.

Phone Dickens 2-7270 Emporia, Kansas

Profit item for millers: dependable *on-time* delivery from our mill to yours.

PREMIX USERS! HOW KEEN IS YOUR BUYING EYE?

200-FT. or 61 m

HETROGEN® K

100 FT. or 30.5 m

256*

70 FT. or 21.34 m

FOR MAXIMUM

50 FT. or 15.24 m

STABILITY IN MULTI-

40 FT. or 12.19 m

VITAMIN PREMIXES. PROVEN

30 FT. or 9.14 m

HIGH POTENCY RETENTION EVEN

20 FT. or 6.10 m

UNDER THE MOST ADVERSE STORAGE AND MANUFACTURING

15 FT. or 4.57 m

CONDITIONS. DATA PROVING THE SUPERIOR STABILITY OF "256" AVAILABLE

10 FT. or 3.05 m

ON REQUEST FOR YOU OR YOUR PREMIX SUPPLIER. FOR BETTER VITAMIN PREMIXES SPECIFY

5 FT. or 1.52 m

HETROGEN K "256", AND BE SURE THE POTENCY IN THE BAG MATCHES THE POTENCY ON THE TAG.

HETEROCHEMICAL CORPORATION

111 East Hawthorne Avenue
Valley Stream, Long Island, N.Y.

*Patents Pending

Please send me information on new K "256" for premixes ☐
Please send me information on your regular vitamin K supplements ☐

NAME _____ TITLE _____

FIRM _____

STREET ADDRESS _____

CITY _____ ZONE _____ STATE _____

reduce the percentage of condemned birds on the killing line.

Some feed manufacturers are using a combination of broad spectrum antibiotics and bacitracin in the ratio of 1/1 in the prestarter and during the potentiated period between the 5th and 6th weeks. Such a practice appears to be sound, based on field diagnostic reports which have come to the attention of the writer.

ARSONIC ACIDS—There are two arsonic acids currently being used on a nutritional basis as additions to feeds for chickens and turkeys—arsanilic acid, 90 grams per ton, and 3-nitro 4-hydroxyphenylarsonic acid, 45 grams per ton.

These drugs have a function or mode of action similar to that of antibiotics but apparently tend to control organisms not touched by the antibiotics.

ANTI-FUNGAL AGENTS — Continuous use of broad spectrum antibiotics, particularly at high levels, produces an increase in the mold, fungi, wild yeast and coliform population in the gastrointestinal tract of chickens and turkeys. This has produced an increase in the incidence of mycosis, cage layer diarrhea and a non-specific enteritis which has sometimes been designated as having been caused by coliform bacteria. One antifungal agent of the antibiotic type has been used for controlling the above listed organisms. The trade name is Mycostatin 20. The writer has used this product on a number of occasions to treat caged layer diarrhea. Such treatment is carried out by adding 100 grams of the product per ton for a period of 7 days and decreasing the level to 20 grams per ton for a period of approximately one month following. If caged layer diarrhea is likely to occur, the continuous feeding of 20 grams per ton of Mycostatin is advocated.

The product has proven to be particularly effective as an additive to turkey prestarters and starters at the level of 20 grams per ton. Tests conducted in experiment stations, commercial laboratories and under field conditions have shown that this antifungal agent will increase growth and improve feed conversion when used in turkey feeds as indicated.

FLAVORS—For many years it was not thought that the chicken or turkey had a sense of taste. Research reports have been published by Dr. Morley Kare and co-workers, Cornell University, to the effect that the fowl does indeed have a sense of taste.

Drinking water has been used to evaluate approximately 100 flavors or combinations of flavors in the laboratory of the department of poultry science, Texas A & M College. After certain flavors were accepted, or selected, through the medium of water administration, the use of these flavors in feeds for broilers was tested. The duration of the broiler experiments was 8 weeks. Each time the flavor was added to the feed, an improvement in feed conversion of .1 to .15 resulted. This means that the addition of the flavor to the feed at the recommended level reduced the amount of feed required to produce a pound of broiler by .1 to .15 pound of feed. Such results have been shown to be significant. Tests have been repeated for a period of three years. No explanation is immediately apparent to the writer for the fact that flavor improves feed conversion under such circumstances. The particular flavor in question is now being tested in widely separated areas by feed manufacturers under field conditions.

Field reports have been noted by the writer in which the flavor has been used with a great deal of success in turkey feeds, particularly during the first 8 weeks and to get birds back on feed following outbreaks of bluecomb, sinusitis and other diseases. A number of feed firms are now adding the flavor to turkey feeds after extensive field testing.

The flavor has also been used during periods of hot weather to increase the feed consumption of laying hens, according to field reports.

From the above it would appear that a flavor or a combination of compounds has been formulated which does have a favorable effect when added to poultry feeds which consists of improving feed conversion and increasing feed consumption under certain specified field conditions.

There is one other area in which flavors as feed additives would appear to have an application. Research carried out in the writer's laboratory has not produced positive results as yet through the use of flavor to reduce the caloric intake of growing pullets. Such investigations are being continued, and it is predicted that flavors will eventually be found which, when mixed with the feed, will decrease the feed intake of growing pullets and thus accomplish a restricted feeding program.

PROTEINS AND AMINO ACIDS—There is not a protein concentrate available which has the perfect combination of amino acids when mixed with grain and which can be used on an economical basis. This has led to the development and production of certain amino acids currently being used in feeds on a practical basis.

Studies appear to indicate that methionine will be added to laying hen feeds in the future since soybean oil meal and grain make up the principal portion of laying mash formulas and the addition of methionine to such a combination of ingredients has been shown to improve feed conversion and certainly improve feathering. It is predicted that the use of this amino acid in laying feeds will increase.

The second such amino acid to be investigated is lysine. Experiments have been conducted for a period of three years at the Texas station with the objective of determining if lysine could be added to a feed formula for broilers containing practical feed ingredients and improve growth and feed conversion. Soybean oil meal and soybean protein have long been considered as the best combination of amino acids available when used in combination with grain and supplemented with vitamins and minerals. There are large tonnages of sesame oil meal and cottonseed meal produced in the world. Both of these vegetable proteins are deficient in lysine. Cottonseed meal is also com-

for
PREMIUM RESULTS
at the market place

For best results on the farm or at the market, the choice is SPENCER KELLOGG'S OLD PROCESS *"expeller"* LINSEED OIL MEAL. This is the meal containing *natural, unsaturated fat* (left in...forming an integral part of the meal particle). It is the meal which provides healthier appearance, better bloom, premium conditioning and customer profits.

SPENCER KELLOGG'S OLD PROCESS *"expeller"* LINSEED OIL MEAL...
TODAY'S STANDARD OF COMPARISON!

SPENCER SK KELLOGG
SPENCER KELLOGG'S MEAL SALES OFFICES
Bellevue 482-8201 Buffalo TL 2-5850 Decatur 429-5365 Des Moines CH 4-7291
Long Beach SP 5-3236 Minneapolis FE 1-5971 Philadelphia PE 5-8787

SPENCER KELLOGG AND SONS, INC.
BUFFALO 5, N. Y.

SPENCER KELLOGG MILLS: Edgewater, N. J. Bellevue, Ohio Chicago Ill. Decatur, Ill. Minneapolis, Minn. Des Moines, Iowa, El Centro, Calif. Long Beach, Calif.

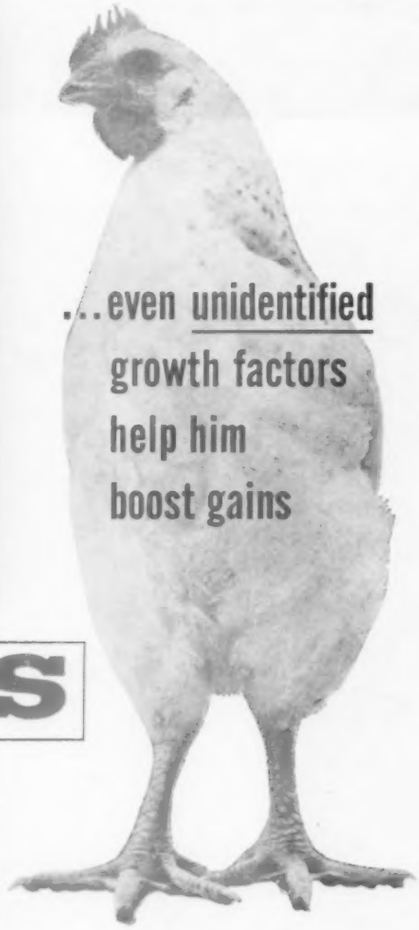
BUY . . . the most versatile mobile feed plant in the industry

MOOERSMOBILE

Now available in single engine units.

MOOERS MFG. CO.
Windom, Minn. Phone TE 1-2644

The Nutritionist puts extra meat on broilers



...even unidentified growth factors help him boost gains

OMAFAC-S

Every known growth factor is used by the Nutritionist to put extra meat on broilers. Some growth factors haven't been isolated yet—but the Nutritionist knows where they are. He calls them *Unidentified* Growth Factors, or UGF.

Many Nutritionists use new Omafac-S as the most economical source of UGF. They just have to add a "pinch" (0.35%) of highly concentrated Omafac-S instead of as much as 4.0%-5.0% crude UGF sources. As a result, your rations are economical and *complete*—no lid holding down full growth of broilers.

To help the Nutritionist, each label clearly shows the *guaranteed* analysis and the *bonus* ingredients...such as protein, fat, and streptomycin activity. Omafac-S is in dependable supply all year. Write for more information.

Squibb Procaine Penicillin G

Another important ingredient is this special grade of penicillin with *Controlled Particle Size*.[1] Squibb Procaine Penicillin G will not lump, will not cake, mixes readily and flows freely. Specially developed for use in *all* feeds, it is exceptionally stable in mash or pelleted form.

Available as 100% procaine penicillin, or as 80% and 50% in oyster shell meal.

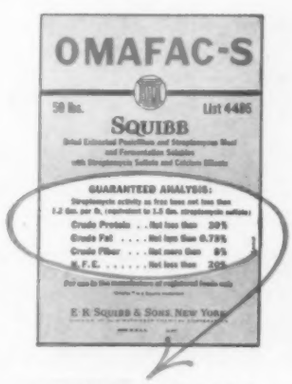
FREE: Send for Technical Bulletin containing stability data, recommended usage, etc. Write today to: Chemicals Sales Department, E. R. Squibb & Sons, Div. of Olin Mathieson Chemical Corporation, 745 Fifth Ave., N. Y. 22, N. Y.

[1] Patent applied for

"OMAFAC" ® is a Squibb trademark

SQUIBB DIVISION Olin

SQUIBB - A NAME YOU CAN TRUST


OMAFAC-S
50 lbs.
Unit 4486
SQUIBB
GUARANTEED ANALYSIS:
Crude Protein . . Not less than 30%
Crude Fat . . . . Not less than 0.75%
Crude Fiber . . . Not more than 8%
N. F. E. . . . . Not less than 25%
E. R. SQUIBB & SONS, NEW YORK

OMAFAC®-S IS CLEARLY LABELED. Each bag is imprinted like this. Note the guaranteed analysis which lists the percentage of each ingredient to help the nutritionist formulate more efficient broiler rations for you.

BIG CHIEF
Pit Augers • Elevator Legs • Mixers • Scalpers •
Graders • Earcorn Crushers • Steel Bins

Hammer Mills 50 to 150 H.P.

Corn Cutters

CUSTOM MILLERS SUPPLY CO.
BOX 383 MONMOUTH, ILLINOIS
MANUFACTURERS OF QUALITY MILLING EQUIPMENT SINCE 1930

plicated by the fact that the ingredient, as manufactured presently, contains varying quantities of gossypol and the latter combines with lysine in the cottonseed meal in such a way that the bond is not broken during the process of digestion. This accentuates the lysine deficiency of the cottonseed meal.

Sesame oil meal is likewise deficient in lysine but does not contain any compounds or materials which tend to bind amino acids.

Studies were carried out at Texas A & M College whereby lysine was added to diets containing soybean oil meal; soybean oil meal plus meat scraps plus fish meal; cottonseed meal; cottonseed meal plus meat and bone scraps plus fish meal; sesame oil meal; and sesame oil meal plus meat and bone scraps plus fish meal. Two rather important findings resulted from these investigations. The first was the fact that when sesame oil meal was supplemented with lysine, an increase in growth and an improvement in feed conversion resulted over that obtained when soybean oil meal was used as the principal protein supplement in the formula. Thus it would appear that when sesame oil meal is supplemented with lysine at a level of approximately 0.25%, the combination of amino acids found in the sesame oil meal plus the lysine supplement is superior to that found in soybean oil meal. Secondly, the soybean oil meal diet was improved by adding lysine after the 4th week. This observation has not been confirmed. There is an indication to the effect that the chicken might possibly have a higher requirement for lysine from the 5th through the 8th weeks than has heretofore been reported.

It is predicted that the usage of lysine in feeds for poultry will increase as the amino acid becomes more generally available and as the price decreases with improved methods of production.

TRACE MINERALS—It has been known for approximately 25 years that it is necessary to add manganese to feeds for turkeys and chickens at a level of 50 ppm.

Zinc has been added to poultry feeds for approximately 3 years. The recommended level to add is 50 ppm.

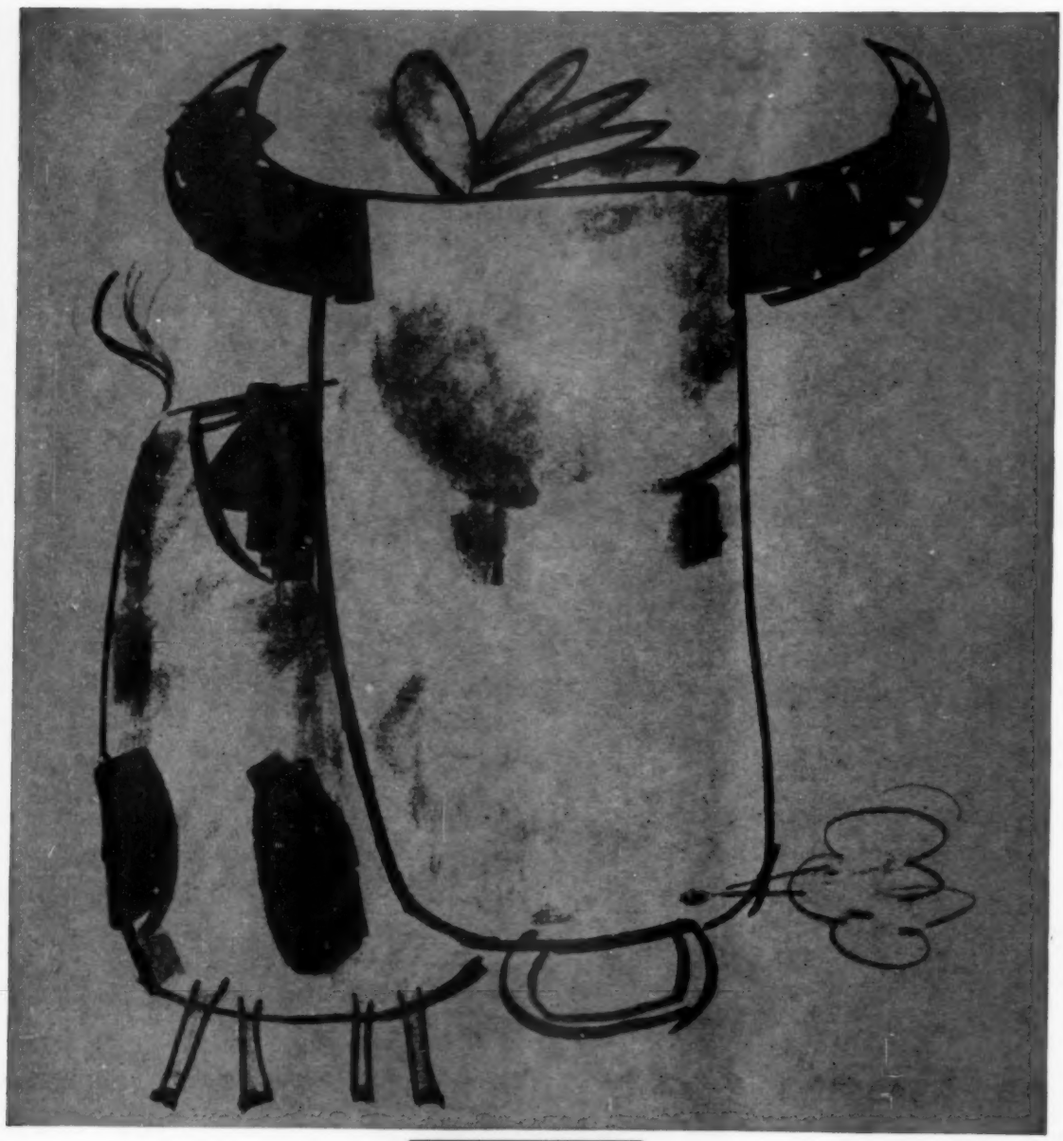
A copper deficiency in the chick was first reported by Dr. C. H. Hill, North Carolina State College, at the Informal Poultry Nutrition Conference. Dr. Hill used zinc as an antagonist for copper in producing the copper deficiency syndrome. Results from these studies showed that copper was not only necessary for the prevention of a microcytic hypochromic anemia but also necessary for the maintenance of life. The zinc antagonism could be overcome by adding 10 ppm. of copper to the formula. It might be wise to consider the addition of copper to practical feeds at the 10 ppm. level.

Iodine is added to feeds at a level of 3 to 4 ppm. in the final feed. Two other trace elements, iron and molybdenum, are often included in trace mineral premixes which are added to the manufactured feeds. The iron is used at a level of approximately 20 ppm. and the molybdenum at .1 ppm.

ENZYMES—Enzymes are currently being added to feeds for chickens and turkeys in areas where barley is used as the principal grain component of the feeds. Most of the enzymes being utilized at present time are in the area west of the Rocky Mountains.

Research being carried out at Texas A & M indicates that proteases may have a place in poultry feeds at some future date. Such proteases are produced from microbiological sources. Results have been favorable with regard to growth and feed conversion when the proteases were added to feeds for chickens during the first 4 weeks. Feed formulations used in these experiments contained ground milo as the grain components.

It is possible that cellulases may find a place in poultry feeds if it could be shown that such enzymes would improve the utilization of low energy containing ingredients such as wheat bran, rice bran, barley and others. There appears to be little or no response from amylases in the current experiments.



ALWAYS THE SAME

Hooker dicalcium phosphate keeps your feed quality at the same high level. It doesn't vary, so there are no costly formula changes to cope with.

Dicalcium phosphate from Hooker contains a minimum of 18.50% phosphorus, calcium from 24.00% min. to 27.00% max., and never more than a 0.05% fluorine content.

This Hooker feed supplement assures your maintaining the same consistently high quality from batch to batch.

You won't have production holdups when you deal with Hooker. You can get what you want when you want it.

HOOKER CHEMICAL CORPORATION
PHOSPHORUS DIVISION, BOX 326, DEPT. FS-72, JEFFERSONVILLE, INDIANA
SALES OFFICES: JEFFERSONVILLE, INDIANA • MARYSVILLE OHIO • NEW YORK, N. Y.
HOOKER CHEMICALS PLASTICS

Grain Shippers' Event

MEMPHIS, TENN. — The Mid-South Soybean & Grain Shippers Assn. will hold its eighth annual convention Aug. 1-2 in the Hotel Peabody here.

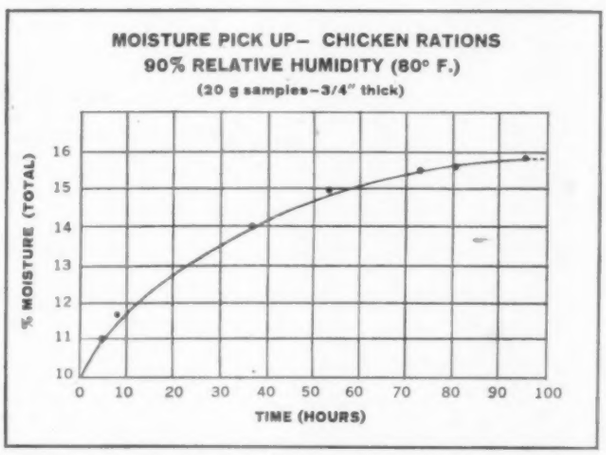
Theme of the convention will be "The Future of Our Present Competitive Market System."

The event will start at 2:30 p.m., Aug. 1 with a "town hall" meeting. This will afford all delegates an opportunity of airing their problems and having them discussed.

A program and business meeting will be held the second day.

Extend quality control over your feed after it leaves your plant... Use Du Pont IMPEDEX®

Keeps feeds mold-free even in hot, humid storage!



Graph above indicates the rapid moisture build-up within hours of storage. Table below shows how low levels of economical Du Pont "Impedex" double the mold-free life of typical poultry feeds at various moisture levels.

EFFECT OF IMPEDEX® IN POULTRY RATIONS

Days of mold-free life at 90° F.

% moisture	No "Impedex"	0.10% "Impedex"	0.15% "Impedex"	0.20% "Impedex"
13	7-17	23-30+	30+	30
15	3-9	8-17	15-26	25-30+
17	2-6	5-10	7-12	11-15

Days of mold-free life at 70° F.

13	14-30+	30+	30+	30+
15	6-18	16-30+	30+	30+
17	4-12	10-20	14-24	22-30

Distribution delays . . . storage in hot, humid bulk and tank cars, warehouse and dealer bins . . . all pave the way for mold to take hold and reduce the quality of the best of feed. Now Du Pont "Impedex" helps you extend quality control over your feed *after* it leaves your plant.

Du Pont "Impedex" guards against mold growth throughout distribution . . . right up to the farm feed bin itself. Here's why: When feeds begin to heat, mold development takes place. To stop mold before it can start, "Impedex" attacks the cause of mold by retarding heating in feeds, even in hot, humid storage. It can double, even triple the storage life of commercial feed ingredients and formulations . . . helps preserve their freshness, protein quality, color and palatability.

HERE'S WHAT MOLD-RETARDING DU PONT "IMPEDEX" DOES FOR YOU

- **protects the high quality you put in the bag**
- **increases customer confidence in your products**
- **cuts feed returned due to mold**
- **broadens markets through extended shipping areas**
- **reduces drying problems**

Economical Du Pont "Impedex" is easy to use. Include it as a dry mix with feed or as part of a liquid ingredient. It blends easily . . . is non-corrosive and will not affect the color or taste of your feeds.

For longer mold-free life and greater quality control, include Du Pont "Impedex" mold inhibitor in your feeds. For further information about "Impedex", contact your local Du Pont sales representative.

DU PONT
REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

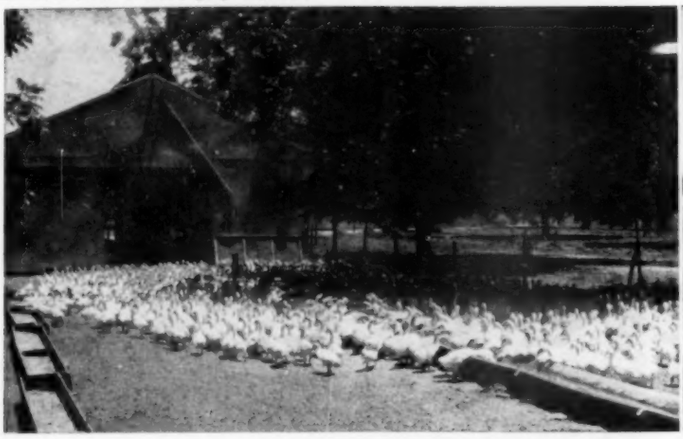
IMPEDEX®

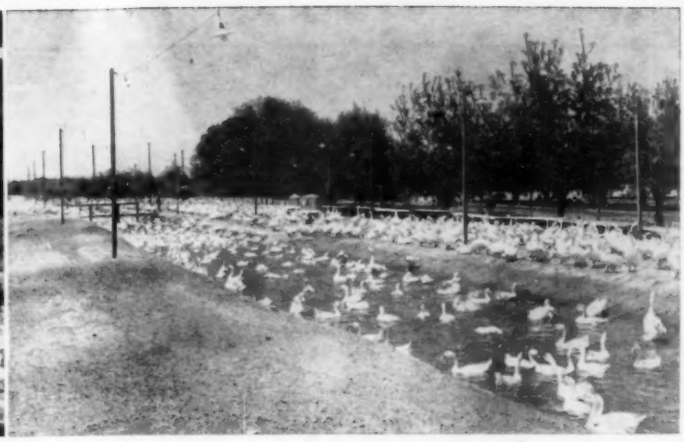
Sodium Propionate NF

E. I. du Pont de Nemours & Co. (Inc.)
Industrial and Biochemicals Department
Wilmington 98, Delaware

Atlanta 8, Georgia . . . . . 739 W. Peachtree St.
Houston 27, Texas . . . . . 4215 Richmond Ave.
Palo Alto, Calif. . . . . 701 Welch Road
Western Springs, Ill. . . . . 40-47 Street
Wynnewood, Penna. . . . . 308 E. Lancaster Ave.

In Canada: Du Pont of Canada Limited . . . . . P.O. Box 660, Montreal, P.Q., Canada





These two pictures illustrate the great size of the goose-producing operation at Stahmann Farms, Las Cruces, N.M. In the first photo, 3-week-old goslings feed outside a brooder house. Young geese live in four different brooder houses at 10-day stages before they are moved to the field to pasture on grass and weeds. In the second photo are the geese which comprise one of five breeding flocks. A total of 10,000 Chinese White breeder geese produce 460,000 eggs a season for the Stahmanns.

Stahmanns of New Mexico Hatch, Feed and Process 300,000 Geese Annually

By C. Thomas
Special Writer

Ten thousand Chinese White breeder geese are producing 460,000 eggs a season at Stahmann Farms, Inc., Las Cruces, N.M. The hatch-out is some 300,000 goslings.

These breeder geese start laying around the first of January, and continue through the second week of June. Thus, the first hatch comes off early in February, and the last take-off occurs around the middle of July.

When Stahmann Farms first began raising geese, its layers were dropping from 40-50 eggs during their laying cycle. Currently, using incandescent lighting to draw them out, and a high protein diet, some of their layers now are dropping as many as 60-80 eggs.

Batteries of automatically controlled incubators for a setting are used to hatch the eggs. (There are 5 Buckeye Streamliner hatchers and 5 setters.) After the hatching out, the 2,400 to 2,600 goslings remain in each incubator 16-18 hours to dry out.

Next step is the sexing of the one-day-old goslings. This is done because the females mature faster in the fields than the males.

Many Sold as Weeders

One hundred thousand of these young geese are sold for weeders to cotton growers, mint growers and others. Weeders are sold as they come, unsexed. Roughly, 10% of the weeders are sold as day-old geese; 90% of the remaining 100,000 are sold at the age of six weeks.

The day-old geese are first housed in a brooder house where temperatures are thermostatically controlled. The chilly winds from off the surrounding mountains make this a necessity.

For the first 4-6 days, the young geese are fed a crumbled starter. After the sixth day they are put on a 5/32-in. pellet of the same formula feed, and remain on it until they are six weeks old.

At the age of 10 days, the geese are transferred to another brooder house where accommodations are not quite as exacting. They remain here for 10 days before being transferred to a third brooder house for another 10-day period. After 10 days in a fourth brooder house they are sent to the field to pasture on grass and weeds which must be young and tender. A goose, regardless of age, scorns rank, tough vegetation.

Stahmann Farms covers a 4,000-acre area, with 24 producing pecan trees to the acre. The geese range beneath the protective shade of these 96,000 pecan trees, within fenced areas, until they become 14 weeks old. Then they are penned up and fattened to 18 weeks for slaughter.

The 4,000-acre farm is divided into 11 ranches, each with its own resident manager, complement of men, tools, equipment, brooder houses and quota of geese.

A feed mill, centrally located, produces some 12,000 tons of feed a year for the 300,000 geese and also for a chicken flock of 200,000 laying hens. All the ingredients going into the feed are purchased. None is grown on the Stahmann Farms. However, no feed is sold. It's all consumed on the farm.

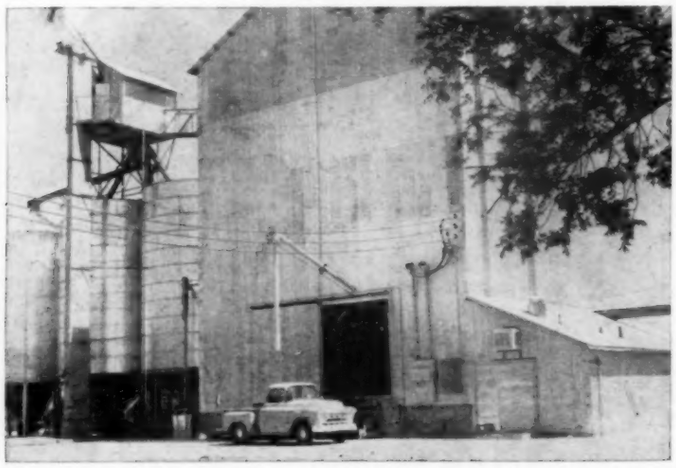
The feed mill is fully automatic, with a central control panel.

Feed Ingredients

Every formula contains the following ingredients: Alfalfa meal, yellow corn, soybean meal, salt, dicalcium phosphate, calcium, meat and bone meal, ground milo, plus a special layer-breeder and/or starter blend supplied by Ray Ewing Co. of Pasadena, Cal., which contains 24 items, including minerals, vitamins and antibiotics.

These ingredients are mixed into a 5/32-in. pellet. Their proportions are according to different age groups to be fed. For example, from 1 week old to 9 weeks of age, goslings receive a starter-grower formula higher in protein than is fed the layer-breeder flocks.

Feed and water are provided the



This feed mill located in the center of Stahmann Farms' operations produces about 12,000 tons of feed a year for 300,000 geese and for 200,000 layers. All ingredients are purchased and all feed produced is fed on the farm.

Deane Stahmann and one of two sons, Billy, are shown in office of Stahmann Farms near Las Cruces, N.M. They and Deane Stahmann, Jr., own and operate the enterprise.

Operation of feed mill on Stahmann Farms is controlled from this panel. Mose Silverman (right) is manager of the mill. Verne Gresham is mill superintendent.

Five bulk feed trucks are used to deliver feed from its own mill to 46 storage tank stations, one of which is shown here. Brooder house is at left.

Stahmann Farms employee is shown traying goose eggs for automatically-controlled incubators in background.

Stahmann Farms produces chicken eggs as well as geese. Shown here is feed storage tank atop corner of one of the concern's laying houses.

geese at all times, including those in the fields.

"A goose consumes .5 of a pound of feed daily," said Deane Stahmann, who with his two sons, Billy and Deane, Jr., own and operate Stahmann Farms. "Up until recently, our geese were consuming .6 lb. of feed per day each. Our new feeders eliminate what heretofore was being wasted. Our layer chickens consume .25 lb. of feed per bird, per day."

Stahmann Farms uses five bulk feed trucks to deliver feed from the mill to 46 storage tank stations on the farm. A small tractor pulling a tank on a trailer hauls the feed from these storage tanks to the nearby brooder houses and the geese in the fields.

Chicken Houses

Each of the farm's new laying houses for its chicken flock—320 ft. long and 25 ft. wide—has its own storage tank atop the building and is filled by the trucks direct from the mill. Automatic feeding is employed in the new laying houses, each one containing 8,000 young layers. The houses are equipped with exhaust fans atop the roof for removing heat and fumes and for circulating fresh air.

"At six weeks," said Billy Stahmann, "our young geese go out into the field, and are put on a field-growing ration. At nine weeks, they weigh right at 9 lb., and will have consumed 18 lb. of feed.

"Up until they are ready for the killing plant, each goose will have consumed 40 lb. of feed. They dress out between 6½ and 7 lb."

The Stahmanns operate their own processing plant which has a capacity of 4,000 geese daily. After being dressed out, the geese are quick-frozen, and sold by Armour & Co.

"There's an eager, ready market for the goose feathers," Deane Stahmann noted.

WHAT!

Food Without a Hook?

FEEDSTUFFS

Offers a lot to its readers..no catch to it. $5 a year brings 52 issues crammed full of information.

Quota for Crop Year

OTTAWA — Maximum quota for wheat deliveries to elevators for the present crop year will be 7 bu. per specified acre, Alvin Hamilton, agricultural minister, announced. He was speaking for the Canadian Wheat Board in the House of Commons.

Mr. Hamilton said that the first authorization for this quota at points where sufficient space is available to warrant the increase has already been issued to the trade.

WHEAT SUPPORT PRICE

OTTAWA—Winter wheat produced in Ontario during the period July 1 this year to June 30, 1962, will be supported at $1.39 bu. on track, for No. 2 Canada eastern grade, or better quality, Alvin Hamilton, agricultural minister, announced. This is the same support level as applied a year ago, and it amounts to 83% of the base price, or 10-year average of $1.67 bu.

WHATEVER YOUR **Flight Conveyor Needs**

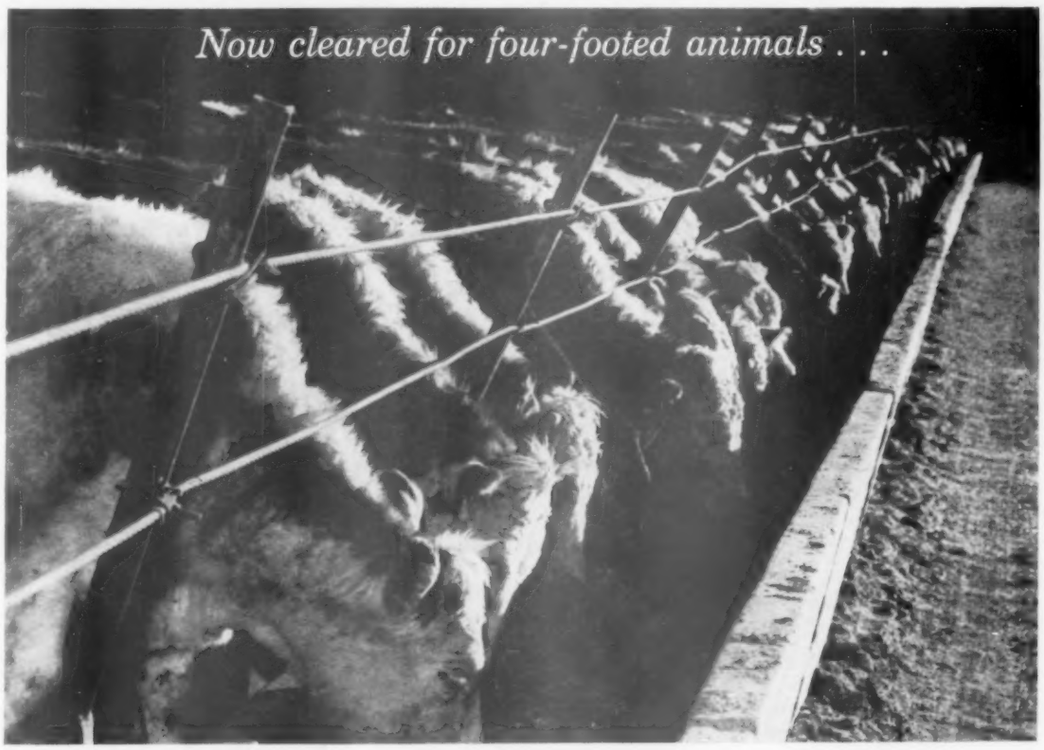
Move your bulk materials faster and more profitably with FLI-CON . . .

FLI-CON . by Thomas . . . features low horsepower, low cost operation. Self-cleaning, minimum carry-over.

Applicable to explosion-proof construction. Flights may be of rubber, polyethelene, nylon, or other materials. Free custom color-scheming. Get the FLI-CON story before you buy!

Screw Conveyors
Belt Conveyors
Fli-Con Chain Drag Conveyors
Bucket Elevators
Ribbon Blender Mixers
Stainless Steel Screw Conveyors
General Sheet Metal Work

thomas conveyor company, inc.
AX 3-1400 P. O. Box 11127, Fort Worth, Texas



SANTOQUIN® is the *only* antioxidant that stabilizes vitamin A

In feeds, vitamin A begins to oxidize during mixing, *continues* to oxidize during storage, and oxidizes most rapidly in the digestive tract. As a result, all of the vitamin A currently being used in animal feeds is not available to promote good health and growth. Furthermore, in some cases many quality mills add excess supplementary vitamin A to compensate for these losses.

SANTOQUIN is the *only* feed antioxidant that stabilizes vitamin A in the body. Only four ounces of SANTOQUIN per ton of feed assures you full return on your dollars spent for vitamin A. Already proved in poultry, SANTOQUIN (dry or liquid) was cleared for four-footed animal feed by the FDA on January 16, 1961. Merely notify the FDA of your use. Your tag should read "ethoxyquin, a preservative."

In all feeds, only SANTOQUIN

- prevents rancidity
- protects vitamin A in the feed bag and through digestion and metabolism
- preserves carotenes

Agricultural Chemicals Division
MONSANTO CHEMICAL CO.
Dept. 7507, St. Louis 66, Mo.

Monsanto

Please send me technical data for:

☐ SANTOQUIN for four-footed animals
☐ SANTOQUIN Bibliography
☐ SANTOQUIN Technical Bulletin

*Name*_____ *Title*_____

*Company*_____

*City*_____ *State*_____

Putting Research To Work

BY SPENCER H. MORRISON, PH.D., D. V. M.

Effect of Choline on the Methionine Requirements of Broiler Chickens.

• E. C. Quillin, G. F. Combs, R. D. Creek and G. L. Romoser, University of Maryland. Poultry Science, Vol. 40, No. 3, pp. 639-645, May, 1961.

ABSTRACT AND COMMENT

Methionine and choline both have a well fixed place in practically all commercial broiler feeds as additives to the diets. But, since methionine and choline both function in the body to furnish labile methyl groups, many have wondered to what extent choline additions in the ration might spare the methionine requirements. Since methionine is more expensive than choline levels of modest proportions, this question has direct economic implications. The Maryland group has investigated this problem for the past several years, and has reported previously at feed conferences, etc., on the progress of their research. This report represents the summary of three experiments conducted with male White Rock chicks in floor pens.

The experimental design in each of the three experiments involved three levels of choline with each of three or four levels of dietary methionine. The weight data from the three levels of choline and the three levels of methionine common to all experiments (0.38, 0.418, 0.45%) were combined and statistically treated by analysis of variance. The three choline levels were: None, 100 and 200 mg./lb. added to the diet with the basal ration formulated to contain 700 mg. of choline per pound. The methionine contents of the basal diets varied from 0.34-0.37 by calculation, and were found to contain between 0.36-0.38% by assay. These levels of methionine were suboptimal for good growth response.

Response Reported

The rations were of the practical corn-sorghum meal types and contained 10-12% added fat. The addition of the methionine produced a significant growth response only with the low-choline rations. Furthermore, the addition of choline improved growth most at low methionine levels. Additions of both methionine and choline together at the highest levels were not significantly better than either one alone at the highest levels. Based on these results it was estimated that 1 gm. of choline was equivalent to approximately 2.3-2.4 gm. of DL-methinoine as methyl donors in the ration.

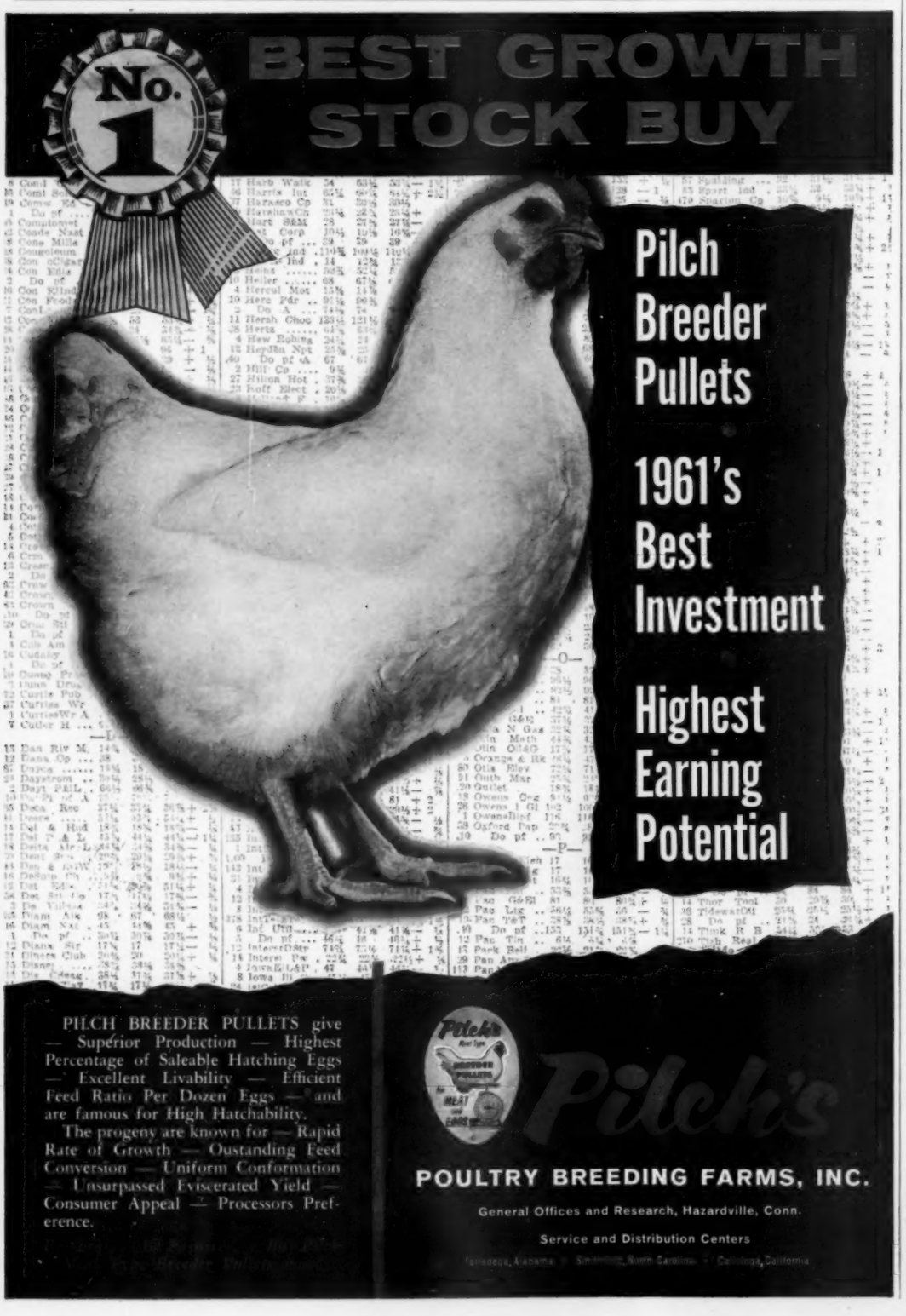
Some have felt that methionine and choline requirements were much higher than the levels used in this experiment with high fat levels (10% or more). The results of these trials are certainly quite interesting and can be translated to direct application in the field with lower energy diets, in my opinion. Of course, such a direct application of results would only hold true if the ration was also adequate in Vitamin B_{12}, cystine, and inorganic sulfur. Otherwise, demand for choline and/or methionine would increase. The energy levels used in this experiment are quite a bit higher than used by most of the feed trade —namely, from 1493 to 1562 Metabolizable Energy Calories or approximately 1016 to 1084 Calories (revised Titus). The first ration contained approximately 25.2% protein while the second one contained 23.5% protein. All diets were fed throughout the experimental periods of 7½-8 weeks.

Several interesting graphs appear on pp. 643-644 of this article which permit direct translation of the data to figures derived from practical diets of differing composition. However, it should be cautioned that the data was secured with male chicks only. Whether or not the same results would be secured with females is not known as yet. One can only guess that the requirements for male birds are higher than for females.

•

Timely and Worth Noting

Many variable responses have been shown for the addition of enzymes to poultry rations and much of the experimental work has been discussed in this column and elsewhere in Feedstuffs in the past. Some workers have felt that the difference in fiber contents between diets fed directly influenced the enzyme response. However, the Washington workers (Poultry Science, Vol. 40, No. 3, pp. 615-619) have now published additional work to demonstrate that a high level of fiber was not required in the diet for fungal enzymes to give a growth response in chicks. Instead, it appeared that the presence of a specific ingredient, such as barley, was necessary to secure a response from enzymes. Fungal enzyme additions did not improve the performance of chicks which were fed high fiber diets that did not include barley.


No. 1
BEST GROWTH STOCK BUY
Pilch Breeder Pullets
1961's Best Investment
Highest Earning Potential
PILCH BREEDER PULLETS give — Superior Production — Highest Percentage of Saleable Hatching Eggs — Excellent Livability — Efficient Feed Ratio Per Dozen Eggs — and are famous for High Hatchability.
The progeny are known for — Rapid Rate of Growth — Oustanding Feed Conversion — Uniform Conformation — Unsurpassed Eviscerated Yield — Consumer Appeal — Processors Preference.
Pilch's
POULTRY BREEDING FARMS, INC.
General Offices and Research, Hazardville, Conn.
Service and Distribution Centers

KAFIR & MILO
Largest Dealers in Southwest
MID-CONTINENT GRAIN CO.
Board of Trade Victor 2-4671
KANSAS CITY, MO.

CUT DOWN SERVICE CALLS!

Tired of too many service calls because of "fair-weather" coccidiostat failures? NiCarb, virtually *coccidiocidal* in its wide range of activity, will give you maximum protection against coxy in *all* kinds of weather...*all* year 'round. Merck Chemical Division, Merck & Co., Inc., Rahway, N. J.

NiCarb®

Tried, Tested and Proved on over Four Billion Birds!

®TRADEMARKS OF MERCK & CO., INC.

CALENDAR

(Continued from page 34)

Aug. 18 — Ohio Swine Day; Ohio State University, Columbus.

Aug. 20-22 — National Hay Assn.; Phoenix Hotel, Lexington, Ky.; sec., Mrs. Elgene L. Hicks, 900 E. Bridge St., Plainwell, Mich.

Aug. 21-22—Kentucky Feed & Grain Association; Brown-Suburban Hotel, Louisville, Ky.; sec., Jack Weber, Box 425, Lexington.

Aug. 24-26—North Carolina Feed Manufacturers Assn.; Cavalier Hotel, Virginia Beach, Va.; sec., McNair Evans, Box 428, Laurinburg, N.C.

Aug. 24-27—Georgia Poultry Institute; Rock Eagle 4-H Club Center, Eatonton, Ga.; Dewey McNiece, Extension Poultry Dept., University of Georgia, Athens.

Aug. 25—Indiana Swine Day; Purdue University, Lafayette; co-chm., Dr. W. M. Beeson and R. A. Pickett, Animal Science Dept.

Aug. 28-29 — American Soybean Assn.; Claypool Hotel, Indianapolis, Ind.; Geo. M. Strayer, Hudson, Iowa.

Aug. 30—"Golden Goodness of Virginia Fresh Eggs Month" Kickoff Dinner; John Marshall Hotel, Richmond, Va.; J. Paul Williams, sec., Virginia Egg Council, 615 E. Franklin St., Richmond.

Aug. 31—Illinois State Turkey Growers Assn.; Willis Clark farm, U.S. Hwy. 150, Mahomet, Ill.; sec., S. B. Swann, Kauffman Turkey Farms, Waterman, Ill.

Sept. 8—Missouri Swine Day; University of Missouri, Columbia; Dr. Leland Tribble, Animal Husbandry Dept.

Sept. 11-12 — Minnesota Nutrition Conference; Institute of Agriculture, University of Minnesota, St. Paul; chm., Dr. L. E. Hanson, Animal Husbandry Dept.

Sept. 11-13—Feed Production School; Continental Hotel, Kansas City; sponsored by Feed Production School, Inc.; pres., Lloyd Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Sept. 12-14—Dixie Poultry Exposition; City Auditorium, Asheville, N.C.; Box 226, Monroe, N.C.

Sept. 13-14—Maryland Feed Service Conference; Chemistry Auditorium, University of Maryland, College Park; Wade H. Rice, Poultry Dept.

Sept. 14 — Small Mill Workshop; Continental Hotel, Kansas City, Mo.; sponsored by Feed Production School, Inc.; pres., Lloyd Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Sept. 17-19—Northwest Retail Feed Assn.; Hotel Pick-Nicollet, Minneapolis, Minn.; sec., W. D. Flemming, Grain Exchange Bldg., Minneapolis 15.

Sept. 18-19 — Pet Food Institute; Drake Hotel, Chicago, Ill.; sec., Clyde Kassens, 333 N. Michigan Ave., Chicago 1.

Sept. 19 - 21 — Marketing Seminar for Feed Manufacturers; Morrison Hotel, Chicago; Sales Executives Council, American Feed Manufacturers Assn.; W. E. Glennon, president, 53 W. Jackson Blvd., Chicago.

Sept. 19-27—International Conference on Fish in Nutrition; Washington, D.C.; sec., Dr. Erik Heen, Chief, Fisheries Technology Branch, Food and Agriculture Organization, Washington 25.

Sept. 22-23 — Iowa Feed Conference; Memorial Union, Iowa State University, Ames; chm., Dr. C. E. Summers, Animal Husbandry Dept.

Sept. 24-26—Southeastern Feed Production School; Continuing Education Center, University of Georgia, Athens.; sec., Southeastern Poultry & Egg Assn., Harold E. Ford, 235 Ponce de Leon Ave., Decatur, Ga.

Sept. 27-28—Arkansas Feed Manufacturers Assn.; Mountain Inn, Fayetteville; sec., J. W. Cobb, Box 391, North Little Rock.

Sept. 27-29—12th Animal Care Panel; Statler Hilton Hotel, Boston, Mass.; chm., Dr. B. F. Trum, Director, Animal Research Center, Harvard Medical School, 25 Shattuck St., Boston 15.

Sept. 27-29—National Feed Ingredients Assn.; Lake Lawn Lodge, Delavan, Wis.; sec., I. Levin, 517½ E. Locust St., Des Moines 9, Iowa.

Sept. 27-29—Pennsylvania Millers & Feed Dealers Assn.; Hotel Hershey, Hershey, Pa., sec., D. W. Parke, P.O. Box 329, Ephrata, Pa.

Sept. 28—Vermont Feed Dealers and Manufacturers Assn.; University of Vermont, Burlington; sec., D. C. Henderson, Hills Agricultural Science Bldg., Burlington, Vt.

Sept. 28-29 — Arkansas Formula Feed Conference; University of Arkansas, Fayetteville; Dr. E. L. Stephenson, animal industry and veterinary science department.

Oct. 2-3—Washington Poultrymen's Institute; Centralia Junior College; Dr. Leo Jensen, Poultry Science Dept., Washington State University, Pullman.

Oct. 3-5—Northeastern Poultry Producers Council Exposition and Convention; Farm Show Bldg., Harrisburg, Pa.; sec., Richard I. Ammon, 10 Rutgers Place, Trenton 8, N.J.

Oct. 4-6—Texas Nutrition Conference; Texas A&M College, College Station; chm., Dr. J. R. Couch, Poultry Science Dept.

Oct. 8-10—Poultry Industries of Louisiana; Bellemont Motor Hotel, Baton Rouge, La.; sec., Stella Jones, Poultry Industry Dept., Louisiana State University, Baton Rouge.

Oct. 10-11—Iowa Poultry Convention; Veteran Memorial Auditorium, Des Moines; sec., Iowa Poultry Assn., LeRoy Kruskop, 535 E. Lincoln Way, Ames, Iowa.

Oct. 12-13 — West Virginia Feed Dealers Assn.; Blackwater Falls Lodge, Davis, W.Va.; sec., J. Z. Ellison, 801 Willowdale Road, Morgantown, W.Va.

Oct. 15-20—School of Executive De-

New Listings

For the convenience of readers who scan the Convention Calendar regularly for new listings, those added to the column in the current week appear separately from ones which have been entered previously. The following week they will be moved to their proper slot where they will remain until the event is held.

Aug. 28-Sept. 2—School in the Fundamentals of Feed Microscopy; Springfield, Ill.; chm., A. W. Creswell, 2028 N. 20th St., Springfield.

Aug. 29-30 — Mutual Millers and Feed Dealers Assn.; Hotel Jamestown, Jamestown, N.Y.; sec., Mrs. Donald E. Mattison, Box 8, Cattaraugus, N.Y.

1962

March 25-30—Grain Elevator & Processing Superintendents; Town House Motel, Omaha, Neb.; sec., Dean M. Clark, 1115 Board of Trade Bldg., Chicago 4, Ill.

1963

March 24-29—Grain Elevator & Processing Superintendents; Commodore Perry Hotel, Toledo, Ohio; sec., Dean M. Clark, 1115 Board of Trade Bldg., Chicago 4, Ill.

WEIGHT FORTUNE
63.7 LBS. MORE PAY WEIGHT...FROM PASTURE TO FEED LOT TO STOCK YARDS!
$7.00 EXTRA PROFIT FOR EVERY DOLLAR INVESTED IN MORTON T-M SALT!
Here are the vital facts about the extra gain you can get with Morton T-M Salt . . . as proved by a long-term test conducted by Kansas State University:
During a 540-day continuous test covering four feeding periods—pasture; winter; pasture; and finishing—cattle fed Morton Trace-Mineralized Salt free-choice gained an average of 63.7 lbs. more pay weight per head than cattle fed plain salt. Figuring the cost of this gain against the extra cost of feeding Morton T-M Salt and a conservative selling price per cwt. . . . the feeder got back more than $7 for every $1 he invested!
And so the evidence mounts up. Morton Trace-Mineralized Salt has a valuable role to play in your feeding program. Even if you use other minerals, Morton T-M Salt increases feed efficiency so that all other feeds do a better job. Your animals stay healthier and gain faster when they get Morton's exclusive formulation of essential trace minerals in their salt every day.
Be sure to feed Morton T-M (Trace-Mineralized) Salt, free choice, to your beef cattle, dairy cows, sheep and hogs . . . to all your livestock. At your feed dealer's, in bags, blocks and bricks. Morton Salt Company - Chicago 6, Illinois.
MORTON TRACE-MINERALIZED SALT

THIS AD WILL TIP THE SCALES FOR BIGGER SALES!!! Here's more dramatic proof that Morton T-M Salt puts gain on faster, for less cost. Your customers will see this ad in FARM JOURNAL, SUCCESSFUL FARMING, FARM QUARTERLY, AMERICAN LIVESTOCK JOURNAL, NATIONAL LIVESTOCK PRODUCER, and the leading state farm magazines. They'll remember it...particularly if you remind them! Suggest they take along Morton T-M Salt when they buy their feed, and they'll be back regularly to do more business with you. Morton T-M Salt is a top-quality product you can recommend with confidence. What's more, it's up to thirty percent more profitable for you.... HIGHER PROFIT FOR YOU...FASTER GAIN FOR YOUR CUSTOMERS MORTON TRACE-MINERALIZED SALT

To add Morton T-M Salt to your line, write Morton Salt Company, 110 N. Wacker Drive, Chicago 6, Illinois

velopment in Business Management, Unit III; Continuing Education Center, University of Georgia, Athens; sec., Southeastern Poultry & Egg Assn., Harold E. Ford, 235 Ponce de Leon Ave., Decatur, Ga.

Oct. 16-17—California Animal Industry Conference; Fresno Memorial Auditorium, Fresno, Cal.; co-sponsored by California Hay, Grain & Feed Dealers Assn. and University of California; sec., California Hay, Grain & Feed Dealers Assn., Leo L. Johnson, Blue Anchor Bldg., 1400 10th St., Sacramento, Cal.

Oct. 23-25—Centennial Nutrition Conference; Hotel Muehlebach, Kansas City 5, Mo.; sponsored by Midwest Feed Manufacturers Assn. and Land-Grant Colleges in Midwest's area; executive vice president, Lloyd S. Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Oct. 24-25—Virginia State Poultry Federation; Hotel John Marshall, Richmond, Va.; sec., J. Paul Williams, 615 E. Franklin St., Richmond 19.

Oct. 24-25—Indiana State Poultry Assn.; Hotel Severin, Indianapolis; sec., Robert L. Hogue, Poultry Science Bldg., Purdue University, Lafayette.

Oct. 26-28—Association of American Feed Control Officials; Shoreham Hotel, Washington, D.C.; sec., Bruce Poundstone, Head, Feed and Fertilizer Control Dept., University of Kentucky, Lexington.

Nov. 1—Animal Nutrition Research Council; Shoreham Hotel, Washington, D.C.; sec., Dr. Philip Derse, Wisconsin Alumni Research Foundation, 506 Walnut St., Madison 5, Wis.

Nov. 1-2—Kansas Poultry Assn.; Broadview Hotel, Wichita; sec., Harry J. Reed, Box 663, Manhattan.

Nov. 1-3—Cornell Nutrition Conference; Statler Hilton Hotel, Buffalo, N.Y.; chm., Prof. Douglas E. Hogue, Animal Husbandry Dept., Wing Hall, Cornell University, Ithaca, N.Y.

Nov. 8-9—Illinois Feed Assn.-Illinois Poultry and Hatchery Federation joint convention; Springfield Armory, Springfield; sec. I.F.A., Dean M. Clark, 141 W. Jackson Blvd., Chicago 4; sec., I.P.H.F., Aubrey Harless, Shelbyville, Ill.

Nov. 9-10—National Swine Industry Conference; Statler-Hilton Hotel, St. Louis, Mo.; chm., Keith Myers, Grundy Center, Iowa.

Nov. 13-14—Washington Animal Industry Conference; Skagit Valley College, Mount Vernon, Wash.; John G. Wilson, mgr., Washington State Feed Assn., Inc., 814 Second Ave. Bldg., Seattle 4.

Nov. 16-19—Florida Nutrition Conference; Grand Bahama Hotel, West End, Grand Bahama Island; chm., Dr. J. P. Feaster, Animal Husbandry and Nutrition Dept., University of Florida, Gainesville.

Nov. 17-18—Tennessee Feed Manufacturers Assn.; Chisca Downtown Motel, Memphis, Tenn.; sec., C. H. Warfield, 200 American Trust Bldg., Nashville, Tenn.

Dec. 5-6—North Dakota Turkey Convention; Civic Center Auditorium, Fargo; sec., North Dakota Turkey Federation, Irving J. Mork, Box 2408, State University Station, Fargo.

Dec. 6-7—Missouri Poultry and American Poultry & Hatchery Federation Midwest Quickie Convention; Hotel Continental, Kansas City, Mo.; sec., Missouri Poultry Improvement Assn., E. M. Funk, Box 568, Columbia, Mo.

Dec. 7-8—Michigan Feed and Grain Dealers Assn.; Pantland Hotel, Grand Rapids, Mich.; sec., Nevels Pearson, Box 472, East Lansing.

Dec. 7-8—North Carolina Animal Nutrition Conference; North Carolina State College, Raleigh; chm., Dr. G. H. Wise, Animal Nutrition Section, Animal Industry Dept.

1962

Jan. 9-11—National Turkey Federation; Memorial Auditorium, Dallas, Texas; co-headquarters hotels, Baker and Adolphus; sec., M. C. Small, Box 69, Mount Morris, Ill.

Jan. 21-23—Indiana Grain & Feed Dealers Assn.; Claypool Hotel, Indianapolis; sec., Fred K. Sale, 600 Board of Trade Bldg., Indianapolis 4.

Jan. 21-24—Farmers Grain Dealers Association of North Dakota; Civic Memorial Auditorium, Fargo; sec., Lloyd C. Hanson, 513 Black Bldg., Fargo.

Jan. 28-30—Midwest Feed Manufacturers Assn.; Shamrock-Hilton Hotel, Houston, Texas; exec. vice pres., Lloyd Larson, 20 W. 9th St. Bldg., Kansas City, Mo.

Jan. 29-31—Southeastern Poultry & Egg Assn.; Municipal Auditorium, Atlanta, Ga.; sec., Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.

Feb. 1-2—Oregon Animal Industry Conference; Oregon State University, Corvallis, Ore.; co-sponsored by the Oregon Feed & Seed Dealers Assn. and Oregon State University; chm., Bill Eggimann, Dairy Cooperative Assn., 2613 S.E. 8th Ave., Portland.

Feb. 4-6—Wyoming Grain, Feed & Seed Dealers Assn.; Townsend Hotel,

Serving the Great South . . .
Joe N. Pless COMPANY
P/S
PHONE JA 6-6411 • P.O. BOX 2654 • MEMPHIS 2, TENN.
SOFT PHOSPHATE
A Natural, Research-Proven, Sensibly Priced Phosphate That Has Fortified More Than 100,000,000 Tons of Feed
Fast delivery of leading vitamins, antibiotics, growth factors and other feed materials from our Memphis stocks is only part of the way we can serve you . . . let us help with your formulations, registrations and other problems.

KEES & COMPANY
Processors of DRIED FISH SOLUBLE PRODUCTS
A "MUST" IN EVERY SWINE OR POULTRY RATION
Call or write for complete information and price
327 S. La Salle St., Chicago 4, Ill. Phone HArrison 7-1528

THE WORLD'S LEADING MANUFACTURER OF HORIZONTAL MIXING EQUIPMENT

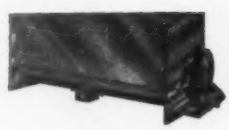
TOP PERFORMANCE AND INCREASED PROFITS ARE YOURS FROM THE SPECIALISTS IN THE MANUFACTURE OF QUALITY HORIZONTAL MIXING EQUIPMENT. There's a Marion unit for every and any mixing job including 31 standard models and special units built upon request.

INTRODUCES THE *Marion* SURGE BIN

FOR CONTINUOUS MIXING OPERATIONS
Designed for use in conjunction with the Marion Mixer, the Marion Surge Bin provides greater mixing capacity for the amount of space required.

SMALL BATCH MIXER

LABORATORY MIXER


INDUSTRIAL MIXER

TWIN MIXER

The Marion Mixer is the best answer to any mixing problem. You need only one mixer in your plant or mill to satisfy all your mixing and blending requirements. The Marion Mixer handles the mixing of dry feeds, and blending of molasses, fish solubles, animal fats and other liquid additives, with the same ease and dependability. THE MARION MIXER WILL MIX GROUND GRAINS, HAY & ROUGHAGES, MINERALS, CORN COBS, ETC., WITH MOLASSES AND WILL MIX CRIMPED OR ROLLED GRAINS WITH MOLASSES without destroying the flake. The Marion Mixer will also mix fertilizers and agricultural chemicals.

FREE! This New Complete Catalog

The Marion Mixer Takes the "Doubt" Out of THE MIX. If the formula is right . . . the mix is right . . . every batch. The exclusively designed mixing and blending action assures a uniform mix every time. The mixing blade faces follow the curve of the cylinder shell with the closest tolerance possible so that not even the tiniest morsel of your mix escapes the sweep of the blades.

RAPIDS MACHINERY CO.
887 11th St., Marion, Iowa

RAPIDS MACHINERY CO.
887 11th St., Marion, Iowa
Please send me without obligation, the new descriptive catalog and prices.
☐ MOLASSES MIXER CAPACITY.....
☐ DRY MIXER CAPACITY.....
☐ FERTILIZER CAPACITY.....
NAME .....
FIRM .....
ADDRESS .....
CITY ..... STATE .....

Call Art Frank for grain or feed ingredients!

Market specialist Art Frank at Dannen Mills, Inc. can buy or sell your feed ingredients at the right price.

Clip this as a reminder to call Art for ■ soybean meal ■ all grains, ■ rolled oats, ■ oat mill feeds, ■ packers products, and other feed ingredients.

Phone Adams 3-6161

St. Joseph, Missouri
Dannen Mills, Inc.
Grain & Jobbing Division

DANNEN

Casper, Wyo.; sec., Everett L. Berry, Box 118, Sheridan, Wyo.

Feb. 5-7—Association of Southern Agricultural Workers; Jacksonville, Fla.

Feb. 9-11—Poultry Fact Finding Conference; sponsored by Institute of American Poultry Industries; Municipal Auditorium, Kansas City, Mo.; pres., Harold M. Williams, 67 E. Madison, Chicago 2, Ill.

Feb. 14-15—Pacific Northwest Feed Mill Production School; Benjamin Franklin Hotel, Seattle; sponsored by Washington State Feed Assn.; mgr., John G. Wilson, 814 Second Ave. Bldg., Seattle 4.

Feb. 16—Washington State Feed Assn. annual convention; Benjamin Franklin Hotel, Seattle; mgr., John G. Wilson, 814 Second Ave. Bldg., Seattle 4.

Feb. 20-21—Virginia State Feed Convention and Nutrition Conference; Hotel Roanoke, Roanoke, Va.; sec., Virginia State Feed Assn., J. **Paul Williams, 615 E. Franklin St.,** Richmond 19, or **Prof. Paul M.** Reaves, Dairy Science Dept., Virginia Polytechnic Institute, Blacksburg.

Feb. 26-March 1—Colorado Livestock Days; Colorado State University, Fort Collins; chm., Dr. C. D. Story, head, Animal Science Dept.

March 15-16—Oregon Feed & Seed Dealers Assn.; Sheraton Hotel, Portland; sec., Russ Hays, Lewis Bldg., Portland 4.

March 19-21—Poultry and Egg National Board; Palmer House, Chicago, Ill.; mgr., Lloyd H. Geil, 8 S. Michigan Ave., Chicago 3.

March 21-23—Grain & Feed Dealers National Assn.; Denver-Hilton Hotel, Denver, Colo.; Secretaries Circle meetings March 19-20; sec., Herbert L. Sharp, 401 Folger Bldg., 725 - 15th St. N.W., Washington, D.C.

March 28—Commercial Egg Clinic; Texas A&M College, College Station; B. C. Wormeli, Extension Poultry Husbandman.

April 9-10—National Institute of Animal Agriculture; Purdue University, Lafayette, Ind.; sec., Karl D. Butler, P.O. Box 521, First National Bank Bldg., Ithaca, N.Y.

April 10-12—Animal Health Institute; Statler-Hilton Hotel, Washington, D.C.; sec., D. L. Bruner, 512 Shops Bldg., Des Moines 9, Iowa.

April 18—Nebraska Feeders Day; University of Nebraska, Lincoln; chm., Dr. Robert M. Koch, Animal Husbandry Dept.

April 26-28—Texas Grain & Feed Assn.; Hotel Texas, Ft. Worth; sec., R. B. Bowden, 504 Ft. Worth Club Bldg., Ft. Worth 2.

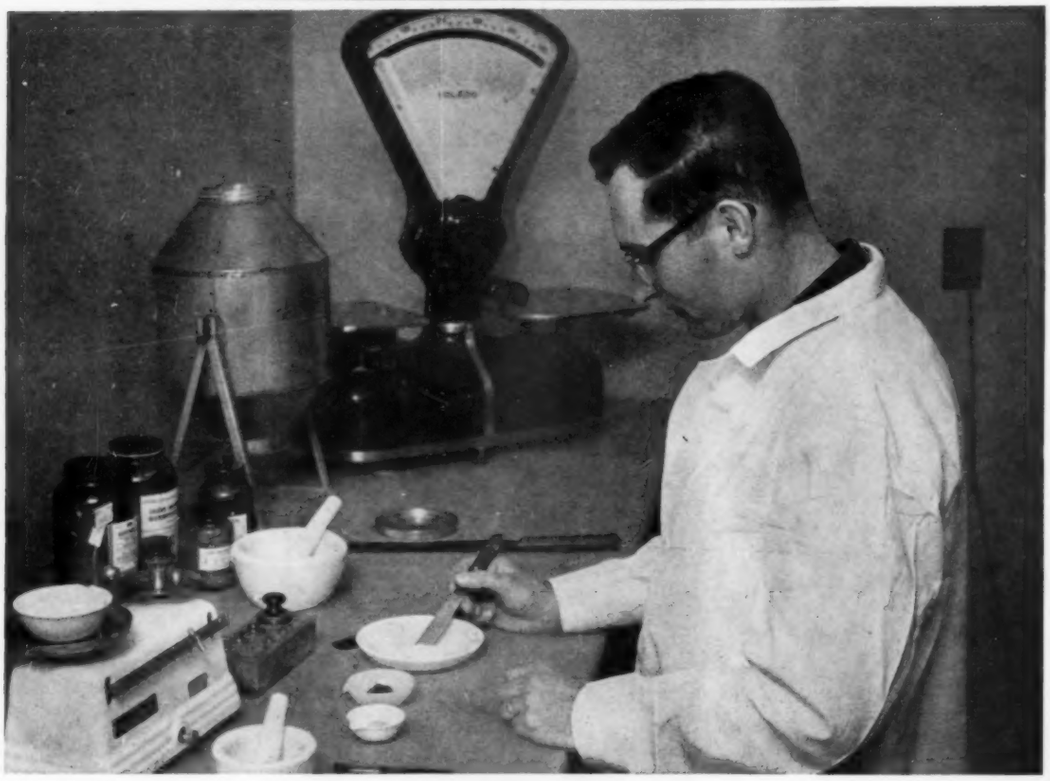
April 26-28—California Hay, Grain & Feed Dealers Assn.; Biltmore Hotel, Los Angeles, Cal.; sec., Leo L. Johnson, 1400 10th St., Sacramento 14, Cal.

April 26-28—Kansas Grain & Feed Dealers Assn.; Broadview Hotel, Wichita, Kansas; sec., Orris E. Case, 609 Wiley Bldg., Hutchinson, Kansas.

May 10-12—American Feed Manufacturers Assn.; Conrad Hilton Hotel, Chicago, Ill.; sec., W. T. Diamond, 53 W. Jackson Blvd., Chicago 54.

Aug. 13-18—12th World's Poultry Congress; Show Grounds of the New South Wales Royal Agricultural Society, Sydney, Australia; Dr. Cliff D. Carpenter, chairman, U.S. Participation Committee, 1207 Emerald Bay, Laguna Beach, Cal.; Dr. A. William Jasper, secretary, c/o AFBF, 2300 Merchandise Mart, Chicago 54, Ill.

How this mixing process can make a



big difference in your feeds!

Here in the Lime Crest Research Laboratory micro ingredients are blended for batch after batch of experimental feeds to be tested on the Lime Crest Research Farm. Lime Crest's nutritionists never stop trying to learn more about the performance of trace minerals in all sorts of rations. They have an all-but-unique library of scientific information about trace minerals and all the equipment they need to analyze and evaluate every ingredient used in formula feeds, but they're not satisfied. They know the proof of the feed — and *all* its ingredients — is in the feeding!

This careful research program, from book shelf to feed room, takes time — more than 15 years already — but it has led to many important discoveries about the use of trace minerals in feed — discoveries that make the big difference in Lime Crest Trace Mineral Pre-Mixes. Unless you are absolutely sure about the mineral mixtures you now use, why not put this Lime Crest difference to work in your feed? At least, let us send you our latest folder and price list.

If you want a special pre-mix, send us your specifications for a prompt quotation.

Lime Crest

LIME CREST
TRACE MINERAL PRE-MIXES

Limestone Products Corp. of America, Newton, N. J.—World's Largest Producer of Crystalline Calcite Products
Canadian Distributor: The Ash Chemical Company, P.O. Box 14, Richelieu, Province of Quebec

THE POULTRY MEAT INDUSTRY IS DEMANDING MORE AND MORE

Cobb's Strain Cross WHITE ROCKS

All over the country broiler operators are joining the swing to Cobb White Rocks. And no wonder — they are specifically designed for creating extra margins of profit all along the line. Write or telephone any Cobb representative or distribution center for documented evidence.

Distribution Centers From Coast to Coast and Overseas

Cobb's Pedigreed Chicks, Inc.
Main Office and Breeding Farms
Concord, Mass.

CHECK FEEDSTUFFS WANT ADS!!

GRACE
GRACE
GRACE

Dairy Nutrition - - - New Frontier

"Nutritionwise, dairying has a lot of catching up to do."

By Dr. H. Ernest Bechtel
Dawe's Laboratories, Inc.

MORE FEED CONCENTRATES—MORE MILK PER COW: A new high of 32 2 lb. of feed concentrates were consumed per 100 lb. of milk by cows in the U.S. in 1960. This is in keeping with the fact that substituting additional concentrates (grains, proteins and additives) for appreciable amounts of roughage will promote greater milk production per cow,

EDITOR'S NOTE: *Anyone involved in dairy nutrition research and feed formulation and development of feeding programs has some real challenges, and opportunities—as brought out in the accompanying article. This article includes excerpts from a talk at the Eastern Federation of Feed Merchants convention by Dr. H. Ernest Bechtel, director of technical service and development for Dawe's Laboratories, Inc., Chicago.*

where otherwise well-balanced rations are used. With better-than-average cows, at least 2000 lb. more per cow per lactation can probably be obtained in most cases by substituting added concentrates for roughage.

All-concentrate and/or all-pellet rations, however, are not yet recommended. With our present knowledge of ruminant nutrition, best results are likely when a minimum of about 5 to possibly 10 lb. of unchopped hay or equivalent is consumed in the ration. This minimum level of roughage will help maintain normal rumen conditions and thereby guard against the development of rumenitis (parakeratosis), liver abscesses, low milkfat tests and off-feed conditions.

This emphasis on high-concentrate, low-roughage rations for milking cows represents a major shift from earlier and still commonly-used feeding recommendations. There is now ample experimental and field experience to justify it. Wide ranges of substitution of concentrates for forages have been used. Where balanced rations were used, results have been considered good even where 30 to 40 lb. of concentrates were fed to individual cows.

This is a practical way of making better cows out of many inferior producers. Experience thus far indicates that appetite is the first lactation-limiting factor with good cows, so that virtually free choice feeding of concentrates can be justified under practical conditions when combined with a good record keeping system and effective culling program.

HOT WEATHER—CALLS FOR "HOT" FEEDS: Hot weather to a dairy cow is anything over about 80°F. The average hard-working dairy cow is most comfortable and least stressed at around 50°F. As environmental temperatures for milking cows approach the so-called hot zone, it becomes increasingly difficult for the animals to lose body heat. This body heat is considerably less where high-concentrate rather than high-roughage rations are fed. Thus, a hot ration relatively high in available energy and low in fibrous materials is better for the hot weather feeding of milking cows.

This concept of nutrition actually is not new. However, it is exactly counter to the viewpoint of many over the years that a cooling or high-fiber ration is preferable during hot weather.

FIGHT HEAT STRESS—WITH VITAMIN A: On the basis of National Research Council standards, 1 mg. of carotene in the ration is equal to 400 International Units of true Vitamin A. This assumes that true A is about 8 times more effective per unit weight than carotene. Recently, however, certain studies have raised questions indicating that true or preformed A should be used to meet requirements especially under hot weather conditions.

Liver depletion of Vitamin A was more than twice as fast in cattle exposed to direct sun, versus cattle kept in the shade. Animals on a low A intake were also less able to withstand exposure to hot summer sun. Blood proteins, as transport substances for vitamin A, were also involved. Likewise, it was suggested that the

These are some of the points brought out by the author:

—Substituting additional concentrates for appreciable amounts of roughage will promote greater milk production per cow. . . . With good cows, virtually free choice feeding of concentrates can be justified.

—A hot ration relatively high in energy and low in fibrous materials is better for hot weather feeding.

—Studies provide a basis for using double levels of true vitamin A in dairy rations in the hot summer months. . . . Old levels of vitamin A in dairy rations appear low. Some feed manufacturers are using 30,000 units daily per cow.

—Despite the value of good quality roughage, its extensive analysis via various state and private laboratories seems hardly justified. . . . Expenditures for numerous analyses may create farmer good-will but otherwise do not appear too promising in really solving feeding problems.

—As the size of the individual herd expands, so will the tendency to shift into a drylot or partial-drylot program.

—Many other developments, including more attention to certain microingredients, are in the picture. Today's real need is stepped-up basic research. Dairy ration formulations and feeding practices are in many respects more than 30 years behind the times.

—Synthesis by rumen microflora is not always optimum. Rumen microflora synthesis is subject to control, and perfection of such control may lead to such practical innovations as all-concentrate rations.

—There will be increasing instances where the "why" of field innovations will come from basic research laboratories long after these innovations have become established practice in successful dairy operations. This will increase the pressure for more and better basic research.

"Our BROWER MIXER gave such good service for 17 years we bought a new, larger one."
Says Robert W. Beste
St. Charles Elevator Co., Inc., St. Charles, Missouri

"Our first Brower Mixer was purchased 17 years ago and has given such good service we bought a new, larger one. We've never had any service problems and the cost of operation is practically nil."

BROWER Whirlwind MIXER

Exclusive Brower action WHIRLS the ingredients instead of just stirring or tumbling them . . . produces the most thorough mix you can get. Every sack has the same even mixture. Dependability, fast mixing action, and low cost operation make Brower the World's Largest Selling Mixer!
FAST and ECONOMICAL — a perfect blend in about 10 minutes at a power cost of only 3c to 5c a ton. Five sizes — 700, 1200, 2000, 3000 and 4000 pounds-per-batch mixing capacities. Above-floor and below-floor models. Heavy, welded construction — built for years of trouble-free service.

BROWER "Whirlwind" mixing paddle at top WHIRLS ingredients for thorough, even mixture.

All-steel grill floor over hopper. All feed remaining at bottom of conveyor sleeve easily and quickly removed.

LOWEST COST 30% PROTEIN
LPS
LIQUID PROTEIN SUPPLEMENT
BEEF DAIRY SHEEP
20,000 USP UNITS VITAMIN A

NOW OPEN... protected dealer franchises

Profits flow your way FAST when you sell LPS—the lowest cost protein supplement with a guaranteed high Vitamin A content. Tested and proven for 5 years, LPS increases butterfat production, cuts feed costs and improves animal health. The LPS story makes sense to farmers and can make sales for YOU.

For full details on an LPS dealership in the Middle West, write today to:

ILLINOIS LIQUID FEED CO.
PRINCETON, ILLINOIS

vitamin E like Mother ought to make

Mother Nature manufactures seven tocopherols, but puts very little of the right kind—*alpha*—into natural feedstuffs. (Of the total tocopherol in corn, only a little more than 10% is alpha.) Yet alpha is the one tocopherol with 100% biological potency. Beta tocopherol is only 33% as effective, gamma only 1%, others even less.

That's why our *Myvamix® Vitamin E* is based on alpha, prepared in a way (tocopheryl acetate) that keeps it stable—all by itself—no help needed—all the way to the bird's crop. *Myvamix* is still the best way we know to make sure of vitamin E content.

Each pound of *Myvamix* contains 20,000 International Units of all-alpha vitamin E on a dry non-dusting soy grits base. It's made by ***Distillation Products Industries,*** Rochester 3, N. Y. Sales offices: New York and Chicago • Charles Albert Smith Limited, Montreal and Toronto.

Myvamix VITAMIN E IS DISTRIBUTED BY:

THE AMBURGO COMPANY, INC.
1315-17 Walnut Street
Philadelphia 7, Pennsylvania

E. A. CARTER BROKERAGE COMPANY
3418 Swann Avenue, Office 5
Tampa 9, Florida

FEED PRODUCTS, INC.
1370 Eleventh Street
Denver, Colorado

W. M. GILLIES, INC.
703 Welch Road
Palo Alto, California

HOLT PRODUCTS COMPANY
Box 840
Milwaukee 1, Wisconsin

KINDSTROM-SCHMOLL COMPANY
418 Flour Exchange
Minneapolis 15, Minnesota

LAVERGNE SUPPLEMENT COMPANY
158 First Avenue South
Nashville 3, Tennessee

M. A. McCLELLAND COMPANY
Dwight Building
Kansas City 5, Missouri

JOE N. PLESS COMPANY
P.O. Box 2654
Memphis 2, Tennessee

CARROLL SWANSON SALES COMPANY
2215 Forest Avenue
Des Moines 11, Iowa

THE JOHN F. YOUNG COMPANY
3270 Southside Avenue
Cincinnati 4, Ohio

IN CANADA

CHARLES ALBERT SMITH LIMITED
356 Eastern Avenue
Toronto 8, Ontario, Canada

8307 Royden Road
Montreal, Quebec, Canada

producers of
Myvamix
Vitamin E

DPi

Also . . . vitamin A . . . distilled monoglycerides . . . some 3900 Eastman Organic Chemicals for science and industry

Distillation Products Industries *is a division of* **Eastman Kodak Company**

increased A requirements under heat stress may stem from a greater production of adrenal corticoids in the body. These are among the studies providing a basis for using double levels of true vitamin A in dairy rations in the hot summer months.

More research will be needed to determine what level of vitamin A might best be used in practical dairy rations today. Certainly the old levels of around 10,000 A daily per cow appear low. Some feed manufacturers now are using 30,000 units daily per cow. The increased cost for this added A appears to be good insurance and a wise expenditure under current conditions. It also may help counter any excessive nitrates in feedstuffs as a result of heavy crop fertilization.

QUALITY BUT LESS QUANTITY —OF ROUGHAGE: From the foregoing, it should not be surprising then to observe that there is a trend to lower roughage levels in milking rations. Substantial shifts in relative prices of feedstuffs could, of course, make roughage a more attractive feed buy at some future time.

Meanwhile, good quality roughage is useful in the dairy ration because of its superior palatability and its greater milk producing ability. This means emphasis on harvesting hay at the proper early stage of maturity for milk making ability.

Despite the value of good quality roughage, its extensive analysis via various state and private laboratories seems hardly justified. Hay is, after all, extremely variable in quality because of a number of factors. Routine chemical analyses, even if more extensive and expensive than usually run for the dairy farmer, still fail to clearly reveal the feeding value of the sample. Also, sampling such a bulky and variable commodity as hay is at best less then satisfactory.

Moreover, whether analyses are or are not available, the best practical way to feed modern dairy cows with a better-than-average production potential is on essentially a free-choice basis where the appetite of the cow becomes a prime controlling factor. Thus, on modern high-energy or hot rations, the chief objective should be to feed liberally enough of a good concentrate mix so that the animals will eat only the desired minimum of roughage. If the roughage turns out better or poorer than average insofar as the cow is concerned, the animal—irrespective of any chemical analyses will still be obliged to adjust the intake of total feed to meet requirements for maintenance, production and reproduction.

Expenditures for numerous roughage analyses may create customer or farmer goodwill, but otherwise do not appear too promising in really solving any of the dairyman's feeding problems. Roughages, like other feedstuffs, have value—but only at a price. Thus, the net value of any production, harvesting, and processing methods will ultimately be determined by the relative net worth of this roughage when consumed.

MORE DRY LOT DAIRYING—ON THE WAY: One foregone conclusion seems certain for anyone looking ahead in the dairy business. As the size of the individual herd expands, so will the tendency to shift by degrees into a drylot or partial-drylot program. This becomes in part a matter of the dairyman putting first things first. This leads to gradually separating and sloughing off farm and field work, practically as the yearly output climbs into the range of 300,000 to 500,000 lb. of milk per man.

OTHER DEVELOPMENTS — IN THE PICTURE: Many other developments are in this shifting and changing dairy picture.

From a feeding standpoint, NPN (non-protein nitrogen) will find larger use in such possible forms as urea, ammonium phosphate, ammoniated molasses and biuret.

Thyroprotein, alone or in combination with other substances, will receive more attention. Currently, the economy of thyroprotein may be helped considerably by the use of large dosages (30 to 40 gm. daily) for hypothyroid cows for two days after calving time, followed by only 10 gm. daily in the winter and 7.5 gm. in the summer. Still other research points to natural estrogens in roughage as a cause of mastitis, stemming from damaged teat epithelial tissue.

In the field of micro-nutrients, investigators in positions of trust and authority have been prone to condemn or ignore—rather than to adequately research — various available factors. Some recognized authorities in this field are telling dairymen and others, words to the effect that: (1) Complex mineral-vitamin supplements have no measurable value in rations of milking cows. (2) Without exception, B vitamins—such as niacin, pantothenic acid, riboflavin, thiamine, biotin, B_6, folic acid, B_{12} and choline—are synthesized by bacteria present in the rumen, and that the chances are relatively few of these materials being limiting factors in terms of additional dairy production.

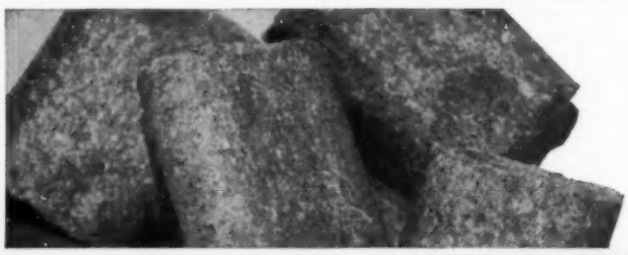
Today's real need, insofar as dairy nutrition and feed merchandising are concerned, is for stepped-up research at the basic level.

Dairy ration formulations and feeding practices, in many respects, are more than 30 years behind the times.

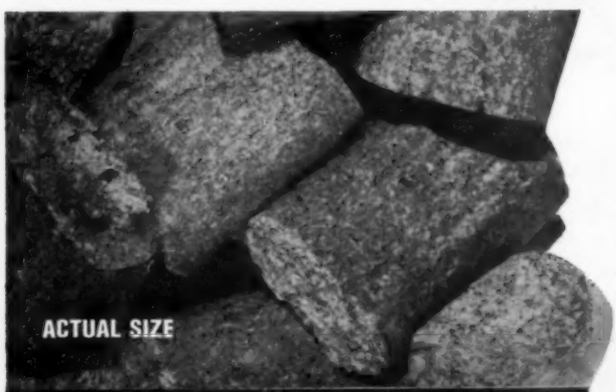
SYNTHESIS BY RUMEN MICROFLORA—NOT ALWAYS OPTIMUM: As little as 0.1 ppm of cobalt has been found important in the rumen synthesis of B_{12}, and recently choline at the rate of 3.25 gm. daily per steer appears to have improved the ration efficiency in the feedlot by about 3%. Lysine, at 10 gm. per steer per day, has been linked with a 3.2% better feed efficiency. MHA (Methionine hydroxy analog) has had no value thus far at the 5 gm. level in daily steer feeding.

Elsewhere it has been reported that good nutrition is just as important for the growth and propagation of the rumen flora as for any other microbial population; the rates of B-vitamin synthesis and amino acid formation in bacterial protein in the rumen are related directly to the level of bacterial growth—and this proliferation, along with cellulose digestion, can be increased by good nutrition (energy, minerals, amino acids, nitrogen, etc.).

Less favorable rumen conditions result in reduced volatile fatty acid production and in slower urea nitrogen utilization. There are indications that the reduction in milk-fat content which frequently accompanies the use of rations high in energy and



THE PF KRAFTPACKER



lets you package cattle cubes like these

AND ALL OTHER TYPES OF PELLETED FEEDS

with an accuracy of 4 oz. + or —

WITHOUT CRUMBLING

WITHOUT BREAKING

The Kraftpacker is the most versatile, most accurate high speed automatic packer in its price class. Standard models for 25 lb. to 100 lb. bags—and for 50 lb. to 200 lb. Special models for special uses.

Hundreds of Kraftpackers are giving excellent service in 31 states and many foreign countries.

We'll send you a brochure, of course . . . write Dept. PF61 . . . better yet, why not ask us to arrange for a free demonstration?

Exclusive Sales Agents

The KRAFT BAG Div.
of St. Marys Kraft Corp., Subsidiary of
GILMAN PAPER COMPANY
111 WEST 50TH ST., NEW YORK 20, NEW YORK
400 W. MADISON ST., CHICAGO 6, ILLINOIS

If your product can be packaged in a multiwall bag — we'll make the Kraftpacker to fill your bags — and we'll make the bags to fit your product! Our new 300,000 sq. ft. bag plant, close to our integrated paper mill, is equipped to produce every kind of multiwall bag used in feed packaging today!

☐ We are interested in your Kraftpacker.
☐ We are interested in improving our bag.

COMPANY NAME_____
ADDRESS_____
CITY_____ ZONE____ STATE_____
PRINCIPAL_____
PRODUCT MFD._____

COLUMBIA
SOFT PHOSPHATE
IMMEDIATE DELIVERY
LOW COST
WRITE FOR INFORMATION
Columbia Phosphate Co.
1807 Washington St. Louis, Mo.

COLUMBIA PHOSPHATE CO.
PHOSPHATE PRODUCTS

Get Famous WAVAC® in

NEW VAC-PAK CARTON

from Dr. Salsbury's exclusively

Dr. Salsbury's famous Wavac (drinking-water vaccine) is now packaged in a new ten-pack container that makes it easier to stock, handle, and sell. Note the new look . . . neat, compact appearance . . . ten bottles of Wavac nested in a glistening, frosty white carton made of expandable polystyrene.

Two kinds of Wavac to meet every flock need: Wavac in combined form to protect against Newcastle disease and infectious bronchitis; and Newcastle Wavac in single form. Wavac in the new Vac-Pak is being advertised to your customers. They're looking for the "new look" in vaccine packaging — Vac-Pak. So stock and sell Wavac in the new Vac-Pak carton.

Contact your Dr. Salsbury's representative or write direct.

- Convenient, easy to handle and store, highly resistant to impact damage.
- Vac-Pak is color-coded. Sealing tape identifies the contents, serial number, expiration date.
- Same high-quality Wavac so well known to poultrymen everywhere.
- Each bottle completely labeled—all directions on or inside fold-out label (see at right)

Dr. SALSBURY'S LABORATORIES
Charles City Iowa, U.S.A.

MORE THAN PRODUCTS — A SYMBOL OF SERVICE

low in roughage, may be prevented by oral use of sodium or potassium bicarbonate.

Antibacterial Action

Another rumen effect that seems to have been largely overlooked is the probable antibacterial action of fats, at least under certain conditions. This may explain why the oil in cooked full-fat soybeans has been associated with lower milk-fat tests. Distillers dried solubles had a similar effect. Additions of calcium or of iron alleviated part of the depressing effect which corn oil had on cellulose digestibility. One suggestion in the literature is that there may be a rumen cation balance which regulates the solubility of saturated long chain fatty acids and therefore rumen microbial activity.

Still others have noted the buffering action of proteins, especially where a severe mineral imbalance involved sequestering of nitrogenous compounds. Sesame, soybean and fish meals are regarded as highly efficient chelating agents for zinc and probably copper.

Not only is rumen microflora synthesis subject to control, but the perfection of such control may well lead to such practical innovations as the successful feeding of all-concentrate rations. The repeated demonstration in laboratory animals of reduced circulating antibody formation in B_6 deficiency, as well as lowered toxoid hypersensitivity, also raises new possibilites and new opportunities for manipulating the rumen microflora.

DAIRYING—HAS A SOUND FUTURE: To anyone who can accept changes, by taking them in stride, dairying offers a sound future.

Nutritionwise, dairying has a lot of catching up to do. Artificial insemination, based on good sires well used, has raised remarkably the lactation ceiling of our cows from a genetic standpoint. Disease prevention and control measures, developed by college and industry research, and applied with the help of competent veterinarians supported by an excellent trade press and by others, enable the dairyman to deal quite successfully with such scourges as brucellosis, red nose, mastitis and tuberculosis. Improved feed production, harvesting and handling practices, along with new farm building layouts, are helping set a better overall dairy production stage. Now, dairy feeding programs are the bottle neck. This gap will no doubt be closed in short order—probably in about 5 years.

Real dairy nutrition progress can no longer be denied. New viewpoints and outlooks are replacing the old. New facts are being established. Where necessary, new ideas will be cow-tested in the field, and promptly applied commercially where considered justified from a business standpoint. In the process, basic researchers, working in well-equipped laboratories under controlled experimental conditions at the college level, will be obliged to "run" faster to stay in the same place, so to speak. There will be increasing instances where the "why" of field innovations will come from the basic-research laboratories long after these innovations have become established practice in successful dairy production operations. This will increase the pressure for more and better basic research—a need already hampering the progress of the feed manufacturing industry.

'Pigs Benefit From Restricted Space'

PULLMAN, WASH. — Swine research at Washington State University here has shown that under conditions of adequate sanitation, small groups of pigs may be restricted to as little as 8 sq. ft. of floor space with no adverse effects on rate of gain or feed efficiency.

In fact, there may be a slight benefit in carcass quality, according to James C. Nofziger, department of animal science, who reported at the annual WSU Sheep-Swine Day.

Mr. Nofziger also reported that he observed that there was no tail biting in pens of eight pigs while there was in all pens of 28 in the test. He indicated that tail biting may be one of the social pressures related to numbers rather than space.

In the study, 156 weaner pigs were allotted to four treatment groups, with each treatment replicated three times. Treatments consisted of: (1) eight pigs allotted 8 sq. ft. each; (2) eight pigs allotted 12 sq. ft. each; (3) eight pigs allotted 24 sq. ft. each, and (4) 28 pigs allotted 12 sq. ft. each.

All pens were constructed so that half of the total area was outdoors and half indoors. The pigs were fed a complete, pelleted ration until the pig averaged 200 to 210 lb.

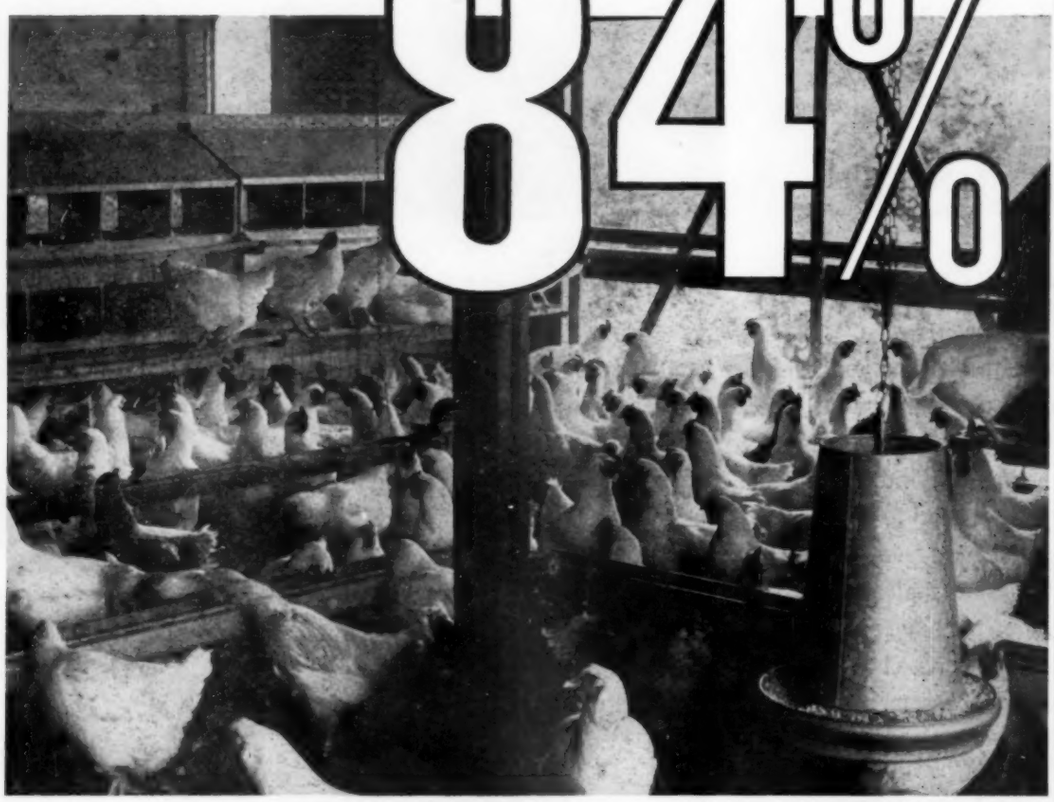
No Great Difference

Mr. Nofziger stated that there was no appreciable difference in average daily gain or in feed efficiency which could be attributed to floor space allotted or to number of pigs penned together. Average daily gain for the various treatments ranged from 1.3 to 1.6 and feed efficiency from 354 to 398 lb. for each 100 lb. of gain.

However, it was emphasized that the pigs raised in groups of eight allotted 8 sq. ft. of floor space each tended to have leaner carcasses than the other groups when specific gravity and backfat were used as measures of leanness. Mr. Nofziger said that the difference was not great, but a definite trend was noticed.

Started: 74,400 day-old pullets...

Housed: 84%



That's Arbor Acres 50 performance!

This is no breeding farm record . . . it's included in our latest tabulation of customer flock records—the performance of 21 flocks on the farms of eight customers in three important broiler areas. These birds are currently setting new standards for production and hatchability. Under varying conditions—some of them have been subject to severe stress—they're demonstrating outstanding livability in the laying house.

Take just 30 seconds to consider the results from these 21 flocks: the highest recorded peak was 87%; only one was below 79% . . . the highest housing percentage was 93.5; the lowest average for any customer was 80%. . . the highest hatch so far has been 85%; the lowest average for any customer has been 79.5%!

If you're not already housing Arbor Acres 50's, are your present breeders performing like this? If not, isn't it just good business—especially now—to see what this hard-working new crossbred can do for you? Better talk it over with your Arbor Acres Representative *right away*.

Arbor Acres ®
GLASTONBURY, CONN.

You can also order Arbor Acres 50's from:

Concord, N. C. • Springdale, Ark. • Blairsville, Ga. • Tenaha, Tex. • Carthage, Miss. • Dahlonega, Ga.
San Luis Obispo, Cal. • Albertville, Ala. • Thorntown, Ind. • Skowhegan, Me. • Aprilia, Italy

BOWMAN PRODUCTS

BoDEE (Mineral) STABLE VITAMINS D
Vita D that will not decompose when combined with minerals.

BoDEE
Vitamin D-2 or D-3 in dry, oil or water dispersible forms.

BoA-S and Bo-A
Stable dry vitamin A products.

BHT
Oil soluble Vitamin protector and pigmentation aid.

HYDROPOID
Dry, free-flowing partially hydrogenated animal fat.

XANTHOPHYLL CONCENTRATES
For better poultry pigmentation.

CLOROFOLEN
Effective dog food deodorant.

ENZYMATIC SYSTEMS

Bowman Feed Products, Inc.
120 Central Ave. HOLLAND, MICH.
3030 Hines Avenue Culver City, Calif.

CONVENTION

(Continued from page 32)

ed to develop rapid and simple analytical methods.

(6) Microscopy and Structure of Economically Important Foods and Some Aspects of Processing; R. Da Rocca, General Foods Research Laboratory—In this paper the fundamental histological structures of foods ranging from those which undergo substantially complete cell breakdown below room temperature to those which are largely unaffected by prolonged (20 hour) boiling were described. The products discussed included water chestnuts, potatoes, peas, beets, coconuts, coffee and strawberries. The relation of ease of cell breakdown to palatability was also discussed.

(7) Pesticide Residues in Animal Feeds—Their Origin, Pathways, Possible Hazards and Methods of Analysis; Leo F. Krzeminski, American Meat Institute Foundation—The increased usage of chemicals in agriculture for the control of rodents, insects, fungi and weeds is a source of pesticide residues in animal feeds. These chemicals find their way into the finished feed as deposits in or on the individual components of the feed such as grain, animal fat, animal protein supplement, and some grasses. Excessive residues in feeds can lead to their presence in animal products at levels that may exceed established tolerances, particularly for those pesticides which have zero tolerance.

Methods for pesticide analysis fall into three categories of measurement which range from specific to non-specific; biological, chemical, and physical. The biological methods make use of living organisms or enzyme systems. The chemical methods are based on the measurement of such changes as color, gas evolution or pH, which result from the interaction of the pesticide with a specific reagent. The physical methods are based on the measurement of some property of the pesticide or its derivative by such techniques as chromatography, polarography, infrared spectrophotometry, titrimetry and potentiometry.

Screening methods are short cut modifications of one of these procedures. They are used to obtain a quick quantitative measure of the total pesticides in a sample. Screening methods do not identify the pesticide but only show whether it exceeds the tolerance.

(8) Photomicrographic Techniques—Gadgetry; R. E. Anderson, Archer-Daniels-Midland Co.—The purpose of this paper was to describe the effectiveness of simple clamping arrangements for positioning conventional cameras above the microscope to permit the taking of photomicrographs without procuring expensive photographic equipment.

(9) Crotalaria; Lewis Barefield, Arkansas State Plant Board—The hazards of the crotalaria seed, a plant which had been used as a cover crop in certain parts of the U.S. but which has been found to possess a toxic reaction in livestock were discussed. Special emphasis was placed on identification of the seed from the various species.

(10) Rendering Products—Contaminants, Sources and Prevention; A. Steel, Kentucky Chemical Industries, Inc.—Problems encountered by the rendering industry due to contamination of the raw materials (fat, bones, meat trimmings, etc.) with foreign material (pieces of metal, glass bottles, cloth, wood, etc.) were described and the procedures used for preventing the inclusion of those contaminants in the renderer's products were described.

(11) Rendering Products—Rendering—Search for New Products; G. Rosendahl, National By-Products, Inc.—The research program of the National Renderers Assn. for developing new products from the renderer's raw materials and up-grading existing products into new applications were discussed. Examples given were the enhancement of the growth promoting value of livestock feeds through the addition of substantial levels of fat (already in wide commercial use), production of solid esters of fatty acids such as sucrose oleate, microbiological breakdown of fats and the use of cetyl alcohol as an evaporation inhibitor for ponds and other bodies of water.

(12) Toxicology of Farm Animals; C. Tyson Smith, University of Massachusetts—This paper was devoted to a description of the procedures used in determining whether a suspected feed is toxic; also the methods for detecting toxicity in the fluids such as stomach contents from animals which appear to have been poisoned. An additional feature of the paper was a discussion of the toxic compounds frequently encountered on the farm, such as lead-containing paints, insecticides, fungicides, etc., which may be carelessly handled and thereby lead to livestock losses.

(13) Feed Microscopy in Animal Nutrition Curriculum; Dr. L. E. Washburn, Colorado State University—The very definite instructional value of the microscope in promoting systematic thought and accurate interpretation of visual data on the part of the student and the benefits resulting therefrom were discussed in this paper.

Officers Elected

Officers elected for the coming year were: Irby H. Brown, president, Virginia Department of Agriculture, Richmond; Ted Windsor, vice president, Ralston Purina Co., Camp Hill, Pa.; G. M. Barnhart, secretary-treasurer, Missouri Department of Agriculture, Jefferson City; Clyde Jones, director, Colorado Department of Agriculture, Denver, and Kendall Jeffress, director, Oklahoma Department of Agriculture, Oklahoma City.

Hold-over members of the board of directors include: Dean Mingus, Burrus Feed Mill, Ft. Worth, Texas; Keith Queal, Pillsbury Mills, Inc., Clinton, Iowa, and A. J. Gehrt, Moorman Mfg. Co., Quincy, Ill., who is retiring president.

CALIFORNIA PRESENTS THE CPM MODEL "200" PELLET MILL

-A BIG PERFORMER FOR BIG OPERATIONS PELLETING BULKY FEEDSTUFFS

California proudly introduces an important addition to its line of pellet mills: the CPM Model "200" – a special-duty mill that has been designed, engineered, fully field tested, and is now offered to the industry as another CPM first.

Equipped with its huge 200 HP motor, the CPM Model "200" swallows up the bulkiest, balkiest feed ingredients – such as alfalfa, beet pulp, barley, and a long list of other light materials – pellets them through a 600 pound die at more than double the capacity possible with previous big-size standard pellet mills. This is without question the ideal machine for producing ¼" and larger size pellets for dairy, feedlot and other large rough-duty operations.

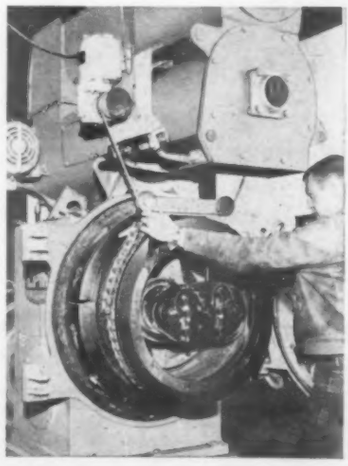
Featuring the exclusive CPM Full Power Gear Train Drive, standard on all CPM models, the Model "200" delivers to the pelleting die *all* the power you pay for. Not two-thirds. Not three-fourths. But the full 200 horsepower output! Here is your assurance not only of greatest operating economy, but also of maximum safety, long and trouble-free service life.

Whether your special-situation requirement calls for a Model "200" or a much smaller machine, you'll find that the complete CPM line offers you the widest, finest choice ever available. Now is a good time to see the man from CPM. His expert help and assistance may well mean a more highly profitable feed production program for you this year and the years ahead. *Remember: More California Pellet Mills are sold today than all other makes combined!*

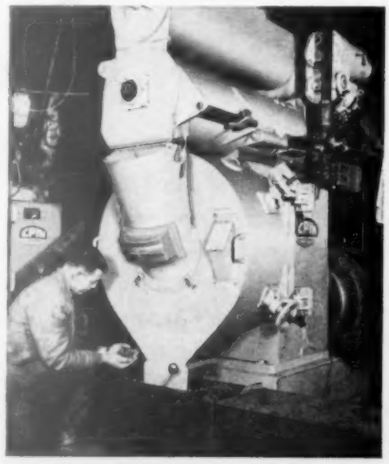
CPM CALIFORNIA PELLET MILLS

CALIFORNIA PELLET MILL COMPANY
1800 Folsom Street, San Francisco 3, California
1114 E. Wabash Avenue, Crawfordsville, Indiana
101 E. 15th Avenue, North Kansas City 16, Missouri

Sales & Service Representatives also in: Aberdeen • Albany Atlanta • Columbus • Davenport • Denver • Fort Worth Los Angeles • Mexico City • Minneapolis • Nashville Oklahoma City • Omaha • Richmond • Seattle • St. Louis Toronto • Winnipeg • Also manufactured, sold and serviced by Henry Simon Ltd., Stockport, England and Sydney, Australia.



Look at the size of the pellet die, shown here being positioned on the Model "200"! Die is more than twice the size used on largest standard model pellet mills today, yet is easily changed by means of built-in electric hoist.



Charles "Ozzie" Harris, manager of Delta Dehydrating Corp.'s Clarksburg, California plant, checks pellet run on CPM Model "200". This pellet mill is operated 24 hours per day during peak production periods, producing both alfalfa and beet pulp pellets in ¼" size.

Make Your Customers GOOD Customers . . . all year 'round

SUPREME Brand Condensed BUTTERMILK

HERBERT K. CLOFINE, Inc.
MILK PRODUCTS
315 South Smedley St. Phila. 3, Pa.

Buy and Sell through **WANT ADS** –in– **FEEDSTUFFS**

'Elevators Need More Diversification'

MINNEAPOLIS — Truman J. Beggs, 71, who retired July 1 as general manager of the Occident Elevator line, a division of the F. H. Peavey & Co., Minneapolis, says that the key to the future of country elevators lies with more diversification.

"We must cater to the increasing needs of our customers," he said. "Farmers, like their urban counterparts, want more services.

"At one time we handled only flour and coal at our elevators. Today, we have expanded to feed manufacturing, seed processing, gasoline, other farm and ranch supplies; generally more custom services.

"To Occident, these changes in consumer demands mean continuous study as to how better it can serve farmers and provide better markets for them."

He speaks with the knowledge gained through 51 years in the grain business.

Occident now operates a line of some 74 elevators in Montana and North Dakota. It also has lumber yards, seed, feed and steam roller plants in the two states.

Under Mr. Beggs' direction, Occident was one of the first grain handling firms to institute feed manufacturing at country elevators in the early 1930's. Another innovation was the operation of gasoline facilities at elevators.

Mr. Beggs also was responsible for Occident's entering into the steam rolled livestock feed program in Montana. In recent years, Occident, under Mr. Beggs' leadership, introduced steam rolled barley to North Dakota. Occident now has feed mills in Mandan, Jamestown, Beulah, Dickinson, Valley City, Minot, Mott, and Beach, N.D.; Plentywood, Columbus, Laurel, Hardin, Miles City, Terry, Glendive, Sidney, Conrad, Wolf Point and Culbertson, Montana.

Mutual Millers, Feed Dealers Plan Event

JAMESTOWN, N.Y. — Plans for its summer convention have been announced by The Mutual Millers & Feed Dealers Assn. The event will be held Aug. 29-30 in the Hotel Jamestown here.

Speakers will be Roger Cramer, Chautauqua County agricultural agent; and John J. Link, assistant manager and farm representative for the Marine Trust Co., Springville, N.Y. Mr. Link will talk on agricultural financing.

Activities Tuesday, Aug. 29, will include a golf tournament at the Moonbrook Country Club and a baseball game that evening. The program Wednesday morning will start with registration followed by a business meeting, talks by Mr. Cramer and Mr. Link and a luncheon. An afternoon of social activities at the Kendall Club is planned.

Abbott Labs Head Asks Drug Checks

WASHINGTON — An inspection system to prevent the marketing of substandard drugs before any damage could be done would best serve the American public, according to Elmer B. Vliet, board chairman of Abbott Laboratories.

In speaking to the 65th annual conference of the Association of Food and Drug Officials of the United States, he said, "We fear that too many incompetents are already in the drug business, and that the number of unqualified may well increase."

Mr. Vliet declared that the simplest and most economical way to meet this threat would be at the source. "Wouldn't it be well to consider some plan of establishing suitable objective standards as to facilities, control procedures and competence and to require inspection before any firm could legally start manufacturing drug products?" he asked. "And, in addition, might not well worked out periodic inspections, applying equally to all manufacturers, detect and eliminate incompetent and short-cut operators?"

The Abbott board chairman pointed out that of the 1,200 firms which make drugs in the U.S. only about 140 belong to the Pharmaceutical Manufacturers Assn. Their standards are reflected in a formal statement on quality control, which "makes very clear the stand of the organized drug industry," he explained.

Million Bushel Tank

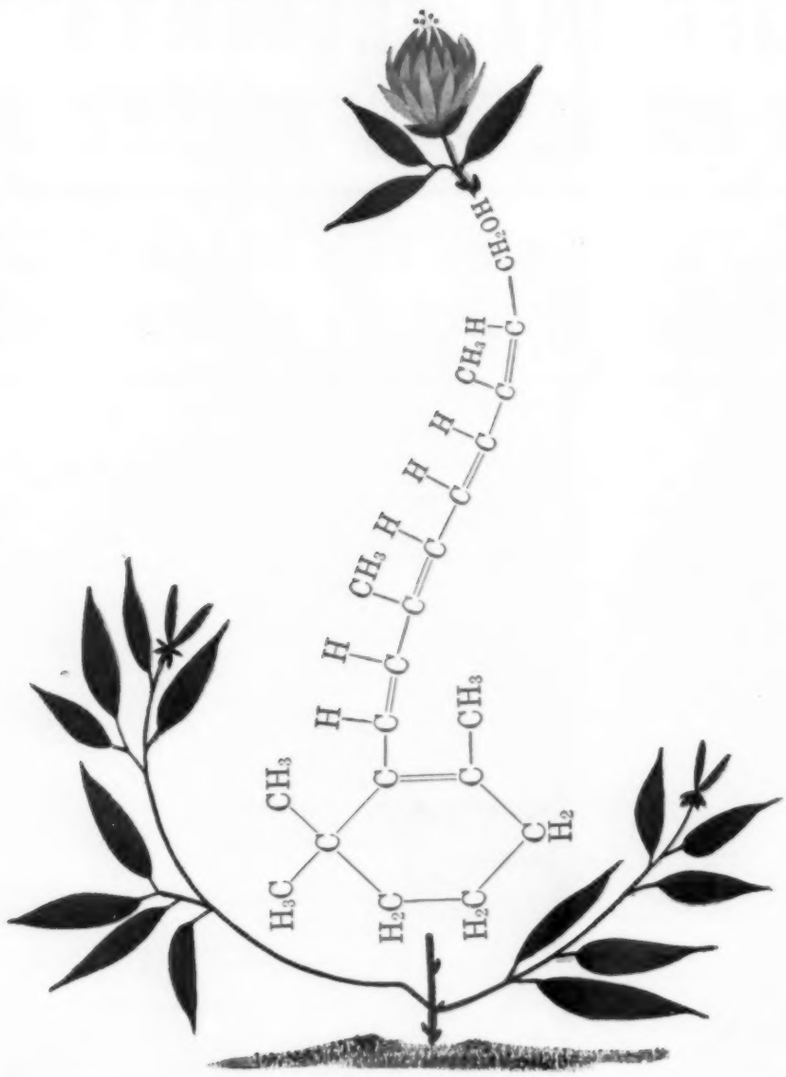
SIOUX CITY, IOWA — Construction has begun here on a 1-million bushel tank that will virtually double storage capacity at Cargill, Incorporated's soybean processing plant, according to A. L. Peterson, manager.

The plant's present capacity is now 1.2 million bushels. The project is scheduled for completion in early September, in time to receive the 1961 soybean crop, he said.

BULK STORAGE

WAPATO, WASH.—A project to increase bulk storage bins is underway at the Reservation Feed Mill here. The new construction will increase the storage supply by about one fourth.

A SKILLED HAND IN NUTRITION . . . AT WORK FOR YOU



This illustration is built around the formula for vitamin A—a suitable one for Nopco because feed men everywhere associate us with Micratized® Vitamin A and Capstress,™ two vitamin A products of exceptional stability and availability. But they associate us with much more. In addition to producing a wide range of high-quality micronutrients, we render a valuable service in helping to develop feed formulations tailored to your requirements. Our Technical Service Bureau has qualifications unsurpassed for working with you on a full series of balanced, highly effective feeds that will be profitable to you and of maximum benefit to your customers' poultry and livestock. Depend on Nopco for the skill that makes your feeds uniformly successful.

NOPCO CHEMICAL COMPANY NOPCO®

60 Park Place, Newark, N.J.

Plants: Harrison, N.J. • Richmond, Calif. • Cedartown, Ga. • London, Canada
Mexico, D.F. • Corbeil, France • Sydney, Australia

Manufacturing Licensees Throughout the World

Basic producers of Micratized Vitamins A and D, niacin, calcium pantothenate, enzymes and other products

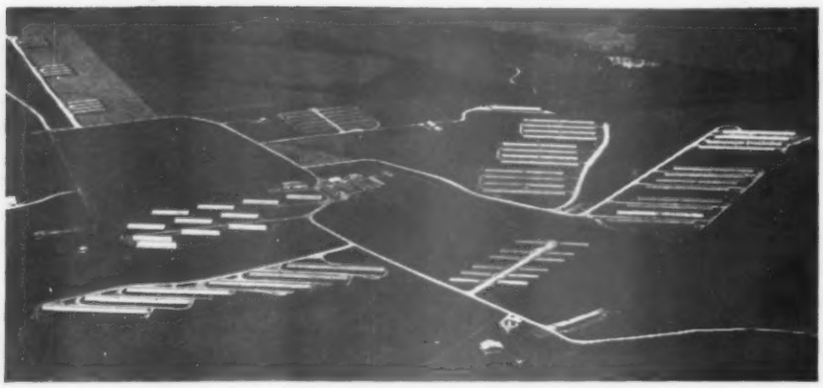
Don't blindfold him!

THE AWESOME-looking instrument in the picture above is an electron microscope. Through it, a cancer researcher can observe the detail of a cancer cell—magnified 100,000 times.

The microscope costs $35,000 and was paid for by American Cancer Society funds—which support 1300 scientists, all working to find the cause of cancer, and its prevention.

Don't blindfold cancer research. Give to it. Send your contribution to CANCER, c/o your local post office.

AMERICAN CANCER SOCIETY



"Vantress Cross"

CONSUMER QUALITY...

Vantress Cross Means:
(1) Tastier and tenderer chickens because of rapid growth in the field. (2) More eye appeal because of better conformation. (3) Better meat to bone ratio and a higher percent of yield in preferred parts: Breasts, Thighs and Drumsticks.

PRODUCTION EFFICIENCY...

More important today than ever before is the bred-in superior performance available in the Vantress Dominant White Male Line. Vantress Cross meat chickens live better, grow faster, use less feed per pound of meat produced and give higher eviscerated yield.

Chas. Vantress Farms

A DIVISION OF INTERNATIONAL GENETICS CORPORATION

DULUTH, GEORGIA

CHAS. VANTRESS FARMS, DULUTH, GA.
DOMINANT WHITE MALE LINE

WORTH LOOKING INTO

NEW PRODUCTS • NEW SERVICE • NEW LITERATURE

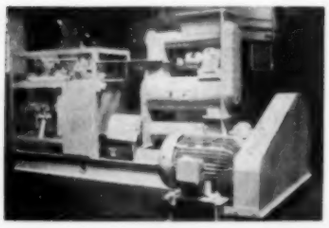
DESCRIPTIONS OF NEW AND IMPROVED PRODUCTS AND SERVICES PROVIDED BY MANUFACTURERS AND SUPPLIERS ARE PRESENTED IN BRIEF FORM. FOR ADDITIONAL INFORMATION, PLEASE USE THE ACCOMPANYING COUPON.

No. 7588—Protein Block Machine

A new firm, Constantflo Machinery Co., has announced development of a new machine to produce protein blocks for livestock feeding.

The new unit, it is claimed, bears no resemblance to the hydraulic press. The announcement said that the Constantflo Blocker weighs about 8,000 lb., has a production rate of 3 to 6 tons per hour, and will produce any size block weighing from 10 to 100 lb.

It presses a continuous flow of material through an open mold. The block then passes through a saw device which measures and automatically cuts the block to a predetermined length and weight. By a quick adjustment, it is said, the length and weight can be varied. There is no pre-weighing of ingredients, and no scale is needed in the new process. The blocks have no taper, which is said to result in easier handling. The company said the blocks "are of such uniform density and hardness that wrapping or boxing is unnecessary. By adjusting moisture control, various densities can be produced." The new Blocker, it is said, will permit production of blocks on a local or nearby basis. The company said it will furnish help in formulation of blocks.



For more information, check No. 7588 on the coupon and mail.

No. 7579—Fertilizer Spreader

Tyler Manufacturing Co., Inc., has announced introduction of a new fertilizer spreader—the F 2-B tractor-drawn spreader with high load capacity.

Features of the spreader include "Dial-a-Matic" metering; a 10-in. heavy-duty stainless steel conveyor; a wider body for greater capacity; improved gussetting; a lower profile and tubular frame.

For additional information, check No. 7579 on the coupon and mail.

No. 7581—Electric Lift Truck

Order selection, maintenance operations and other jobs in high areas are said to be accomplished by a one-man "Hy-Drive" electric truck introduced by The Raymond Corp.

A second set of controls located on the elevating carriage allows the driver to leave his conventional operating station, step onto the elevating platform and elevate himself to any height necessary to work in the higher areas, company officials state. Power steering permits the driver to move the truck while it is in an elevated position.

Built-in safety devices include controls which govern the travel speed and limit the elevated height from which the "Hy-Drive" unit can be operated. A "dead man" pedal applies the brakes and cuts all electrical circuits when the operator leaves his normal steering position.

When the platform controls are not in use, the truck can be used in normal pallet handling operations.

The "Hy-Drive" controls are available on Raymond's 4,000-lb. capacity, heavy-duty, narrow aisle electric truck. For additional information, check No. 7581 on the coupon and mail.

No. 7580—Horizontal Mixers

The availability of a 12-page illustrated technical catalog on horizontal mixers for free flowing, granular materials has been announced by Young Machinery Co., Inc.

Design, technical and dimensional data are included for mixers ranging in capacity from ½ to 500 cu. ft. The catalog covers laboratory models and production units; standard, trowel type and special units with adaptations for heating, cooling, drying or liquid additions; low pressure and high pressure steam or baffled water jackets.

The catalog combines both Young and Robinson mixer designs. For copy of bulletin M/1058A, check No. 7580 on the coupon and mail.

No. 7582—Phosphate Products Handling

Monsanto Chemical Co.'s inorganic chemicals division has announced publication of a booklet describing the pneumatic bulk transport, storage and handling of phosphate products.

The booklet lists the various cost-cutting factors resulting from bulk transports and handling. It describes a typical system and gives a cost and savings case history of an actual installation.

In addition, it describes equipment needed for such a system, including storage facilities, piping, air venting, conveying and weighing.

For a copy of the booklet, check No. 7582 on the coupon and mail.

No. 7584—Bulletin on Aortic Rupture in Turkeys

An eight-page booklet on the treatment and prevention of aortic rupture in turkeys with feeds containing Serpasil premix has been published by the animal health division of Ciba Pharmaceutical Products, Inc.

The working manual is said to provide useful information about aortic rupture in turkeys.

Company officials say that "Serpasil premix, a feed additive tranquilizer, has gained acceptance in improving productive performance of layers under stress, and preventing or controlling outbreaks of aortic rupture in turkeys." It is also said to reduce flock mortality due to heat and crowding.

For a copy of this manual, check No. 7584 on the coupon and mail.

No. 7589—Hopper Car Vibrator

The Cleveland Vibrator Co. has announced a new lightweight air powered vibrator for emptying railroad hopper cars. It weighs less than 70 lb. and is said to create a vibratory force of over 1,000 lb.

The 3-in. KO-LSRR features a one-piece vibrator attached to a cast steel male wedge head. Designed to fit a standard railroad hopper car bracket, the vibrator can be lifted from its bracket mounting and moved without loosening or tightening bolts, clamps or other attaching devices. A built-in handle facilitates removal and carrying.

The vibrator body houses an air pressure driven piston. The piston may be lubricated automatically by oil fed into the air stream. Both intensity and frequency of vibration

are regulated by adjusting the air supply.

Company officials say that the 3-in. KO-LSRR delivers over 1,700 vibrations per minute at 60 p.s.i.g. and will operate on as little as 30 p.s.i.g. of air pressure.

For additional information, check No. 7589 on the coupon and mail.

No. 7583—Bin Vent

The Pulverizing Machinery Co. describes its recently introduced "Mikro-Pulsaire" bin vent as "specifically designed to provide maximum dust collection efficiency and operating economy with pneumatic conveyor-receivers."

The unit is said to be suited to fluidized solids systems, for use on bins where the large plenum area reduces cleaning surge. It can be mounted directly on the receiver bin.

Electrically timed jets of high velocity air clean the filter elements, eliminating the need for internal cleaning mechanisms and the cost of replacement parts, while assuring longer bag life, according to company officials.

Offered in two basic designs, the Mikro-Pulsaire bin vent can be installed with filter bags projecting directly into the customer's bin, or with its own filter housing for external mounting on top of the bin.

Three models, in either design, with 25, 42 or 63 sq. ft. of filter area are

Send me information on the items marked:

- ☐ No. 7579—Fertilizer Spreader
- ☐ No. 7580—Horizontal Mixers
- ☐ No. 7581—Electric Lift Truck
- ☐ No. 7582—Products Handling
- ☐ No. 7583—Bin Vent
- ☐ No. 7584—Bulletin on Turkeys
- ☐ No. 7585—Blower Units
- ☐ No. 7586—Flexible Metal Hose
- ☐ No. 7587—Grinding, Mixing Unit
- ☐ No. 7588—Protein Block Machine
- ☐ No. 7589—Hopper Car Vibrator
- ☐ No. 7590—Airlock Feeder

COUPON NOT VALID AFTER 60 DAYS

Others (list numbers) .....

NAME .....

COMPANY .....

ADDRESS .....

CLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL

FIRST CLASS PERMIT No. 2 (Sec. 34.9, P. L. & R.) MINNEAPOLIS, MINN.

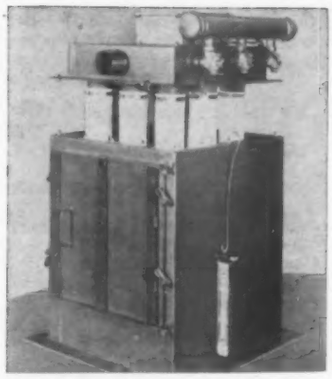
BUSINESS REPLY ENVELOPE
No postage stamp necessary if mailed in the United States

POSTAGE WILL BE PAID BY—

Feedstuffs

P. O. Box 67

Reader Service Dept. Minneapolis 40, Minn.



available. Operational air-to-cloth ratios are 5 to 15 cu. ft. per minute per square foot. Optional equipment includes an automatic start-stop operated by a signal transmitted from a pressure sensing device to the electronic timer control.

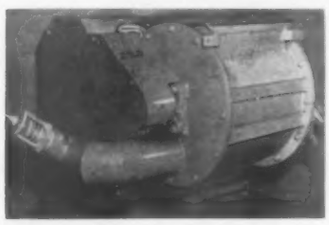
Uses of the bin vent include: Installation at individual nuisance dust points in an elevator system where it is desired to return the dust to the relieved area; mounting on a bin under pressure for venting an air conveyor or air slide; for bin aeration, by installing a fan on the clean side of the bin vent to keep the bin under suction; and at fluidized conveyor truck unloading points to eliminate need for a return line to the truck.

For additional information, check No. 7583 on the coupon and mail.

No. 7590—Airlock Feeder

Ripco, Inc., has announced introduction of its new high-capacity Jet Airlock feeder. Known as Model HC1200, the feeder is said to offer improved force feeding, increase capacity by approximately 35% and lower maintenance.

The feeder is installed at the rear of either a dump style or standard



body truck. Grain or feed is fed by gravity or hand fed from bags. The grain and feed are then distributed by forced air through flexible hoses to storage bins, other trucks, etc.

When not in use, a steel plate covers the feeder opening, which permits use of the truck for conventional means.

For additional information, check No. 7590 on the coupon and mail.

No. 7585—Blower Units

A four-page folder covering the complete line of blower units manufactured by Systems Engineering & Manufacturing Co., Inc., is now available.

The literature covers both low and high pressure models, including schematic drawings, specifications, standard model designations, together with operating and maintenance instructions.

For a copy of the folder, check No. 7585 on the coupon and mail.

Fleischmann's F·I·D·Y
IRRADIATED DRY YEAST
RICH IN VITAMIN D FOR FOUR-FOOTED ANIMALS

No. 7586—Flexible Metal Hose

The Universal Metal Hose Co. has announced the availability of a new bulletin that describes its selection of flexible metal hose.

The hose is said to be specially designed for gravity or pneumatic transfer of grains and bulk materials where resistance to severe abrasion and corrosion is required.

For a copy of Bulletin No. IPB-Sec. 3A(a), check No. 7586 on the coupon and mail.

No. 7587—Grinding and Mixing Unit

A new crusher-feeder head to speed grinding of ear corn and hay is now available with the Gehl Mix-All Feedmaker manufactured by Gehl Bros. Manufacturing Co.

The four-speed swinging auger

SUNSET FEED & GRAIN CO., INC.
PHONE TL 2-2937 AREA 716
805 Dun Building Buffalo 2, N.Y.
TWX BU 71
DISTRIBUTORS OF
HUBINGER GLUTEN FEED PACIFIC MOLASSES
DU PONT'S "TWO-SIXTY-TWO" FEED COMPOUND
CALF MANNA PROTAMONE MILEZYME
DYNAFOS DICALCIUM PHOSPHATE
PILOT OYSTER SHELLS STONEMO GRANITE GRIT
NOPCO FEED SUPPLEMENTS
DEPENDABLE SERVICE ON FEED INGREDIENTS
BRAN DISTILLERS GRAINS SOYBEAN MEAL
MIDDLINGS BREWERS GRAINS LINSEED MEAL
HOMINY FEED MALT SPROUTS BEET PULP
ASK FOR QUOTATION CARD

Try on your customer's glasses!

Look at Burlap's advantages through *his* eyes!
Then you can build better customer relations...*with Burlap bags*...because they help your dealer.
He's better off with Burlap...therefore, so are *you!*
Burlap bags are too strong to burst...in-transit or in-plant.
Also, they handle better. Other packaging may be *cheaper*...Burlap is more *economical.*
The *real* cost is what counts, with the grower!

THE BURLAP COUNCIL
122 E. 42nd Street, New York 17, N.Y.

feeder and the 17-in. wide crusher are said to make fast work of grinding ear corn. With the auger-feeder swung to one side, baled hay slices can be tossed directly into the crusher.

The Gehl Mix-All Feedmaker is available with either a 10-in. or 15-in. hammermill. The mixer has a 2-ton capacity. Other features include a concentrate hopper for addition of feed additives or premixes.

An optional metal-gathering magnet keeps hardware out of the feed. It is said to trap the smallest bits of sheet metal or the heaviest bolts.

The unit is also available with a husker-sheller and a roller mill. For additional information, check No. 7587 on the coupon and mail.

Also Available

The following new products have been described in previous issues of Feedstuffs and information about them may still be obtained by jotting the appropriate number of the coupon and forwarding it to Feedstuffs.

No. 7447—Variable speed drive, Reliance Electric & Engineering Co.

No. 7485—Vertical feed mixer, Shop Engineering Co.

No. 7486—On-farm feed depot, Leach Mfg. Co.

No. 7487—Boxcar unloading unit, Andrews Machine Co.

No. 7488—Pellet mill die, Sprout, Waldron & Co., Inc.

No. 7489—Swine feed additive, Hess & Clark.

No. 7490—Broiler male, Barker & McMillan Hatchery, Inc.

No. 7491—Automatic batching and mixing, Wisconsin Electrical Mfg. Co., Inc.

No. 7492—Farm mill using concentrates, The General Supply & Equipment Co.

No. 7493—Self-cleaning conveyor, Duplex Mill and Manufacturing Co.

No. 7494—Corn sheller for mobile mill, The Iowa Portable Mill Co.

No. 7495—Truck blower unit, Ripco, Inc.

No. 7496—New automatic bagging scale, Richardson Scale Co.

No. 7497—Equipment purchasing guide, The Grain Processing Machinery Mfrs. Assn.

No. 7498—Feed bag coding, Pitney-Bowes, Inc.

No. 7499—Automatic egg gatherer, Big Dutchman Automatic Poultry Feeder Co.

No. 7500—Grinding and mixing unit, Tusco Sales.

No. 7501—Conveyor model bag closure, Minneapolis Sewing Machine Co.

No. 7502—Equipment literature, Seco, Inc.

No. 7503—Basket extractor, V. C. Anderson Co.

No. 7504—Portable pneumatic unloader, Sprout, Waldron & Co., Inc.

No. 7505—Portable transfer unit, Fuller Co.

No. 7506—Automatic bulk handling equipment, The Henderson Manufacturing Co.

No. 7507—External fat application system, Wenger Mixer Manufacturing.

No. 7508—Belt-propelled tripper, Finco, Inc.

No. 7509—Ventilating fan recorders, Service Recorder Co.

No. 7510—Grain soaker-feeder, Baughman Manufacturing Co.

No. 7511—Vibration inducers, The Martin Engineering Co.

No. 7512—Broiler feed additive, Hess & Clark.

No. 7513—Air inlet for poultry houses, The Big Dutchman Automatic Poultry Feeder Co.

No. 7514—Mixing equipment, Superweld Corp.

No. 7515—Bulk feed body, Baughman Manufacturing Co.

No. 7516—Vitamin A and D products, Hoffmann-LaRoche, Inc.

No. 7517—Poultry house ventilation, Big Dutchman Automatic Poultry Feeder Co.

No. 7518—Self-powered grain spreader, General Equipment Co.

No. 7519—Dog food fortifier, Borden Special Products Co.

No. 7520—Feed service merchandising program, William Davies Co., Inc.

No. 7521—Centrifugal dust separator, Day Co.

No. 7522—Bulk weighing brochure, Toledo Scale Corp.

No. 7523—Steam boilers, Sellers Engineering Co.

No. 7524—Conveying and rotary valves, Systems Engineering & Manufacturing Co., Inc.

No. 7525—Bulk feed unit, FMC Bulk Transport Systems.

No. 7526—Batch process controller, Control Equipment Corp.

No. 7527—Air unloading for mobile units, Ripco, Inc.

No. 7528—Gyro-cooler data sheet, Young Machinery Co., Inc.

No. 7529—Pneumatic unloading systems, Sprout, Waldron & Co., Inc.

No. 7530—Conveyor literature, Screw Conveyor Corp.

No. 7531—Turkey house automation, Big Dutchman Automatic Poultry Feeder Co.

No. 7532—Windowless poultry houses, Masonite Corp.

No. 7533—Portable feed manufacturing unit, Dodgen Industries.

No. 7534—Automatic checkweighers, Toledo Scale, Div. of Toledo Scale Corp.

No. 7535—Automatic sampling device, Gustafson Manufacturing Co.

No. 7536—Package mill, Myers-Sherman Co.

No. 7537—Bucket elevator, Pioneer Belting & Conveyor Equipment Corp.

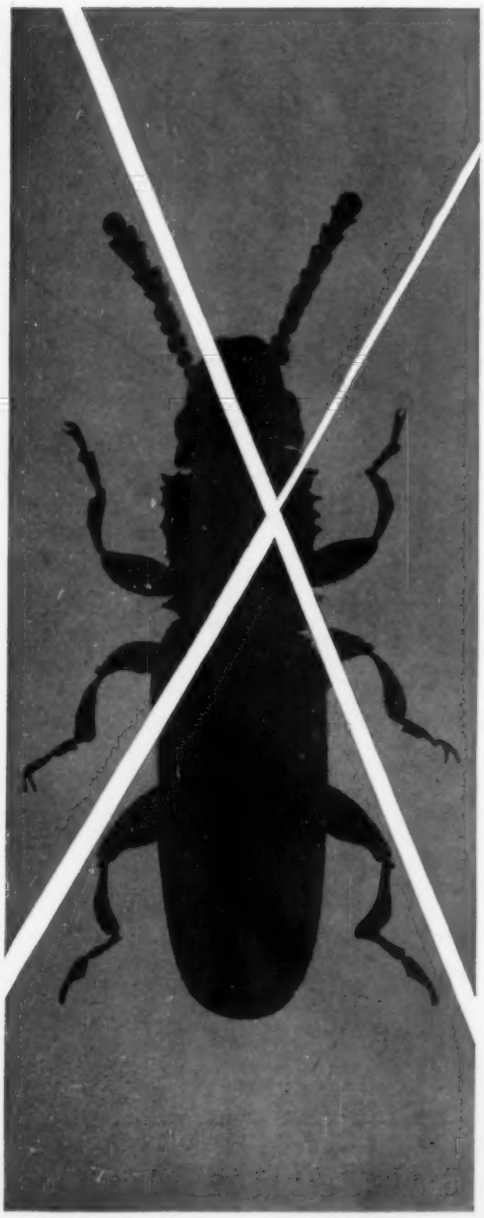
No. 7538—All-purpose feed base, Fruen Milling Co.

No. 7539—Sanitation product, Organic Soil Builders, Inc.

No. 7540—Newcastle disease vaccine, Delaware Poultry Laboratories.

No. 7541—Poultry and egg pigmenting agent, Grain Processing Corp.

KILL 'EM



. . . and at less cost per bin

Cadelle beetles—and other free-loaders on grain—die a quick death when they get a lethal whiff of Diamond's patented Brand "A."

Brand "A" penetrates fast and sure with a heavy vapor that blankets every kernel of grain. And . . .

It's thorough—the active vapor mixture kills adults, larvae and eggs. 100% active mixture, that's what.

It's cheaper—less gallonage is required per bin.

It's safer—non-explosive, and has no flash point. Has no effect on seed germination. Leaves no odor or taste when used as directed.

Diamond offers a complete line of standard fumigant formulations in addition to Premium Brand "A." For information, write Diamond Alkali Co., 300 Union Commerce Building, Cleveland 14, Ohio.

DIAMOND GRAIN
FUMIGANT PREMIUM
BRAND "A"

Diamond Chemicals

Brewers Dried Grains
Dried Brewers Yeast
Primary Source
The New Century Co.
3939 So. Union Ave.
Chicago 9, Ill.
Phone: Yards 7-1003

No. 7542—Feeder unit, Sterwin Chemicals, Inc.

No. 7543—Fiberglas fume hood, Laboratory Construction Co.

No. 7544—High-speed railroad scales, Fairbanks, Morse & Co.

No. 7545—Proceedings of nitrofuran symposium, Hess & Clark.

No. 7546—Pressure pneumatic systems, Sprout, Waldron & Co., Inc.

No. 7547—Disease, dosage chart, Merck Chemical division, Merck & Co., Inc.

No. 7548—Portable air vibrator, The Cleveland Vibrator Co.

No. 7549—Corn husker-sheller, Haban Manufacturing Co.

No. 7550—Spinner gear cases, Highway Equipment Co.

No. 7551—Utility bucket elevator, Universal Hoist Co.

No. 7552—Detachable container system, The Heil Co.

No. 7553—Metering pump, Madden Corp.

No. 7554—Flow metering units, Industrial Powertronix, Inc.

No. 7555—Heavy-duty vacuum car cleaner, Spencer Turbine Co.

No. 7556—Hog feed additive, Ultra-Life Laboratories.

No. 7557—Pigloo isolation system for hogs, Pigloos, Inc., and Collins Products, Inc.

No. 7558—Poultry building exhaust fan, Big Dutchman Automatic Poultry Feeder Co.

No. 7559—Pellet mill, KGC Corp.

No. 7560—Steam boiler, Boiler Engineering & Supply Co.

No. 7561—Molasses system for mobile mills, Daffin Manufacturing, Div. of Daffin Corp.

No. 7562—Hydraulic truck unloader, Straight Engineering Co.

No. 7563—Proportioning liquid to solid ingredients, B-I-F Industries.

No. 7564—Vaccine for Newcastle disease, The Ray Ewing Co.

No. 7565—Vitamin blocks with increased vitamin A, Western Condensing Co., Div. of Foremost Dairies.

No. 7566—Commodity moisture tester, United States Testing Co.

No. 7567—Grain truck traffic control signal, Hot Spot Detector, Inc.

No. 7568—Poultry feeder manual, Keen Mfg. Corp.

No. 7569—Pneumatic truck body, Baughman Manufacturing Co., Inc.

No. 7570—Mobile pellet mill, Barnard & Leas Mfg. Co.

No. 7571—Bucket elevator, Universal Hoist Co.

No. 7572—Drop bottom ribbon blender, Munson Mill Machinery Co.

No. 7573—Dog food crusher, Sprout, Waldron & Co., Inc.

No. 7574—Salt products, The Carey Salt Co.

No. 7575—Steam boiler literature, Parker Boiler Mfg. Co.

No. 7576—Hydraulic truck hoist, Energy Mfg. Co.

No. 7577—Automatic nitrogen analyses, Technicon Controls, Inc.

No. 7578—Roller-mixer, The Wetmore Pulverizer & Machinery Co.

GO BULK WITH BUTLER

handle more livestock...more profitably with less labor

Many feed lot operators like the Western Packing Company, Toppenish, Washington, are installing their own feed centers. They've found that by doing this they can not only increase feed efficiency, but effect substantial saving, and assure themselves of a continuous supply of freshly mixed feeds.

If you're planning to expand your feeding operation, take a tip from the most successful operators—choose Bulk-O-Matic tanks for storing grain and supplements.

These sturdy, heavily galvanized tanks protect grain and concentrates from weather, insects, and rodents. Complete with discharge augers they give you accurate, push-button control of grains and supplements. And, thanks to Butler mass-production economies, they bring storage costs down to rock bottom.

Single Bulk-O-Matic tanks with auger available in capacities from 2 to 87 tons. Multi-tank installations complete with augers, elevators, screw, or belt conveyors can be tailored to fit any feed-handling requirement.

For full details on this low-cost way to build feed centers, contact your feed or supplement manufacturer. Or, write directly to the Butler office nearest you.

CELEBRATING 60 YEARS BUTLER FABRICATING METALS

BUTLER MANUFACTURING COMPANY

Dept. 402, 7400 East 13th Street, Kansas City, 26, Mo. • 902 Sixth Avenue, S.E., Minneapolis 14, Minnesota
Dept. 2, 2710 Butler Avenue, Richmond 1, California • 1012 Avenue W, Ensley, Birmingham 8, Alabama

Manufacturers of Equipment for Farming, Transportation, Bulk Storage, Outdoor Advertising • Metal Buildings • Plastic Panels • Contract Manufacturing
Factories at Kansas City, Mo. • Minneapolis, Minn. • Galesburg, Ill. • Richmond, Calif. • Birmingham, Ala. • Houston, Tex. • Burlington, Ontario, Canada

Review of Research on Economic Developments And Trends in a Changing Feed Industry

By V. John Brensike
U.S. Department of Agriculture

Information on the costs of operation and studies of methods and channels of distribution play an important part in an efficient feed mill operation. Much of our research is concerned with these two general subjects which are important to us.

Let me start by summarizing some of our research on the methods and channels of distribution to give you an idea of the changes occurring in our U.S. industry and to suggest some needed additional research. I expect that you will note many industry similarities between Canada and the U.S.

A study recently completed by Prof. Richard Phillips of Iowa State University under contract to the U.S. Department of Agriculture, analyzed the costs of procuring, manufacturing and distributing mixed feeds in the Midwest under four types of company organization. This report was published by the U.S. Department of Agriculture.

This case study indicates that four local mills, located in a grain surplus area and operating at a volume of 10,000 tons per year, can be just as efficient and possibly a little more efficient than a mill with an output of 40,000 tons per year, but which operates from a centralized position.

Another of our studies has shown a tremendous increase in the number of feed mills located in feed deficit areas such as the Southeast. The study also indicates that this appears to be not only a shift from the Corn Belt or surplus grain production area to grain deficit areas but also a part of a general trend throughout the country toward a more direct demand orientation of the industry.

Place for Local Mixers

It appears that there is a place for local mixers in the present feed mixing industry. With the right type of management, equipment, and location they can compete. But they must keep abreast of the current trends in the industry as a whole and especially in their local areas.

Currently our industry is producing about 40 million tons of formula feed annually. The 1958 Census of Manufactures indicates that most of this volume is produced in about 2,300 establishments. Industry lists, however, indicate that there may be about 7,000 establishments mixing formula and custom feed in our country. This indicates the preponderance of small units in the feed mixing industry. Also many other establishments merely retail feeds mixed by others.

Eight-State Survey

A survey of eight states located in various areas of the U.S. indicates that about 64% of those plants that retail feed also mix it at the same location. The remaining 36% merely retail feed. Only 10-15% of the feed mixers mix but do not retail at the mixing location.

Poultry feed, especially broiler feed, represents about half of the mixed feed produced in the U.S. And about half of our retailers handle more than one brand of feed. An estimated 75% of this feed is delivered when sold. Retailers owned by the mixing company or under informal agreements with this company do most of the retailing. Integration contracts, especially in broilers, or production and short term credit, are available from all retail establishments. Free credit periods and subsequent interest charges vary considerably from plant to plant. Many retailers also offer discounts of from 1 to 3 percent or $1 to $4 per ton to stimulate cash purchases or payment within the free period.

Regional Trends

Estimates by the feed industry indicate that on-farm mixing has been increasing on our larger farms, especially in the West and the East during the past five years. Despite the availability of surplus grains, it has not increased as rapidly in the Midwest and South. Custom milling for farmers and the operation of grain banks are increasing in importance in the Midwest and South. Direct feed sales do not appear to be increasing rapidly in any of the states but they are important in California and Washington.

Bulk feed sales were reported to be increasing slowly in all areas of the Midwestern States and were reported to have been very rapid in over 40% of the trade areas in California, Washington and Georgia. All segments of the industry (including related grain which is not directly involved) report that bulk sales decrease prices and increase services. Lower prices were emphasized in the West and increases in services in the Midwest.

Most sales areas were reported to have remained the same size but those that increased tended to be for mixers who retail while those that decreased were for retailers.

Using the summary of these trends during the last five years as a guide, we believe that many people in the industry will be able to estimate the strength and impact of these trends if and when they begin to move into their own trade areas.

Areas of Research

In this respect we are much interested in conducting some research on: (1) methods and costs of operating a grain bank in connection with feed mixing, (2) impact of the integration of animal and poultry production on the costs and returns of feed mills and the farmer feeders, and (3) probable impact of larger size farms on the feed milling industry.

Work on the grain bank and integration projects has begun. Work on the important analysis of the impact of larger size farms on the feed milling industry must await the conclusion of a study of on-farm mixing practices and costs now in progress in the farm economics division of our Economic Research Service. A combination of the results of this on-farm study with our knowledge of the feed mixing industry should provide some worthwhile indications of basic costs and functions which in turn can be used to show potential basic trends in the industry.

Cost Control

Costs of operation can be considered to be a partial yardstick to keep track of the success or failure of a business. It is only a partial yardstick because the management that overemphasizes per unit cost reduction can fail because of poor product quality or lack of service. And we must recognize that the feed industry is a service industry. Its success and the success of each individual mill or company must come from supplying a product which will help a farmer reduce feed inputs per output of meat, milk and eggs.

Without the proper control of costs any feed mill can run into competitive difficulties. This is especially true if the mill's volume is no longer increasing, a factor that helps to offset many inefficiencies.

Since not all costs are controllable, not all cost records need be kept in the same degree of detail. For example, fixed costs can be analyzed annually and used in that form unless new equipment is installed. In this instance a recomputation may be necessary. Likewise, certain variable costs are more important than others. In feed milling, for example, ingredient costs and labor costs are very important.

Must Know Costs

Feed mill management must know its costs. It is not enough to know that the entire operation, including the country elevator and/or the farm supply unit, is making a profit. It is important also to know whether the feed milling unit is operating efficiently or whether its efficiency could be improved. These and other cost records are much more meaningful if they are expressed on the basis of a unit of output.

What can be done to increase operating efficiency? I believe that to answer this question a feed mill has to select certain cost items and obtain even greater detail in its records. For example, a mill could obtain the per unit costs of receiving, grinding, mixing, pelleting, maintenance and so on. This information should then indicate the problem more specifically since, after cost comparisons, the problem can be focused on the receiving, the grinding, or another problem cost center. Without this assistance in focusing on the problem area it may be difficult to attempt to increase a plant's operating efficiency.

Will it pay to produce another new brand of feed or to drop an old one from production? Again, some estimates of the relative costs of producing and selling brands of different volumes must be available, along with actual or estimated sales, before this answer can be given with any degree of certainty.

Basically, the research studies we have conducted have followed this same plan. For this reason our reports can be used by a feed mixing company or plant as a basis of comparison for its own cost records. In fact, it is mainly in this way that our studies become valuable. This comparison may be made either directly or by using our data and a plant's own operation costs to estab-

EDITOR'S NOTE: Summarized in this article excerpted from a talk given in Canada by Mr. Brensike are recent research findings of the U.S. Department of Agriculture. Especially noteworthy is a summary of a recent USDA study of the changing structure and trends in the mixed feeds industry. USDA intends to publish a complete report on this study within six months.

Mr. Brensike included the information presented here in an address before the Canadian Feed Mill Management School, Ontario Agricultural College, Guelph, Canada. His talk was designed to give the assembled Canadians a general picture of the formula feed industry in the U.S. and to report on findings of economic research completed and additional research needed.

The author is in the marketing economics division of USDA's Economic Research Service.

OUTLOOK or LOOK OUT!

Challenges, Opportunities and Pitfalls Await Feed Men in the Months Ahead

An informed outlook is the best insurance against the "look out!" warnings that usually come too late. That is one of the reasons for the popularity of Feedstuffs' Outlook Issue. That's the reason it has been necessary to reprint the Outlook features in the Dec. 31, 1960, issue.

This 20-page reprint includes 11 articles on business prospects and important trends in various areas of the feed industry, with emphasis on marketing at a profit. Included in the report are exclusive articles by Robert D. Emmons of Wirthmore Feeds, Inc.; Earl P. Mitchell of Alabama Flour Mills; E. C. Fuller of Nutrena Mills, Inc.; G. A. Ensminger of Albers Milling Co., and R. H. Bauman and J. O. Dunbar of the agricultural economics staff at Purdue University.

You'll also find that valuable information from Feedstuffs' survey of feed manufacturers is presented in detail in the report.

If you'd like to sharpen your outlook and eliminate the "look outs," just fill in and mail the coupon.

Please send me ..... copy(ies) of "Feedstuffs Outlook Report on Important Prospects and Trends for 1961" at $1 each for which payment is enclosed.

Name .....

Company .....

Address .....

City ..... Zone.... State .....

lish standards or goals for comparison and to improve efficiency.

Some of our earlier studies of operating costs have analyzed the economies of scale in the feed mixing industry. A brief summary of these findings indicates that:

1. The industry cost curve drops downward very rapidly as plant volume increases from the smallest volume to an annual output of about 10,000 tons per year. This means that local feed processors with volumes of less than 10,000 tons per year, to compete, must cover their larger per unit operating costs by lower ingredient costs and merchandising costs, or as a necessary expense for maintaining clientele, by making use of idle labor and operating a necessary feed mixing sideline.

2. The industry cost curve tends to level out considerably at an annual volume of about 25,000 tons of feed mixed. This indicates that, when only operating costs are considered, additional tonnage did not result in large savings in per ton costs after the plants achieved the output of 25,000 tons per year.

3. Most of these economies of scale result from the grinding, mixing, packaging, and pelleting cost centers. Apparently, the smaller mills can be about as efficient in the receiving, warehousing, and maintenance cost centers as the larger mills.

4. Custom milling operations, either mobile or stationary, must have annual volumes of at least 2,000 tons before they can break even on their service operation, given current costs and charges.

Linear Programming

An unpublished doctoral dissertation by J. T. Scott of Iowa State University analyzes the "Application of Linear Programming for Profit Maximization in the Feed Firm." The coefficients for both production and marketing used in this analysis were obtained under a department contract from the actual records of the feed company and from the best estimates of top managerial personnel in the company. The study indicated that by far the most remunerative activity in the company was field sales effort. Feed salesmen were worth $25.20 per hour to the company in terms of increased profit. By contrast, the next most productive input was worth only $5.01 per unit to the company in increased profit.

Dr. Scott's linear program solution indicated an increase of 315 tons per month in total volume was advisable in this feed company. His analysis called for an increase in sales volume of 28 feeds, a decrease in sales volume of 13 feeds, with the sales volume of 3 feeds remaining unchanged. The program solution indicated that the feed company's net earning would be more than doubled by the plan indicated, assuming the reduced sales of some types of feed do not adversely affect the volumes sold in other lines.

Sales Efforts

The high marginal productivity of sales efforts is of particular significance. The solution indicates that profits could have been raised still more by additional sales effort (provided that additional salesmen with productivities equal to that of present salesmen could be employed for anything less than $25.20 per hour. If salesmen could be employed at $5 per hour, each additional hour of sales contacts would have added $20.20 to the net earnings of the feed company.

While this analysis is applicable in the narrow sense only to the specific company for which operation was programmed, it is indicative of the relative importance of sales expenditures to feed companies generally. This is logical, too, in view of the excess feed manufacturing capacity of many companies in the industry and the lower per unit costs and higher net returns that come with increased sales volume, especially in the many small volume operations.

Feedstuff Consumption Increases in May

WASHINGTON — Consumption of commercial feedstuffs during May totaled around 1.7 million tons, up 125,000 tons from April, and 185,000 tons more than in May, 1960, reports the U.S. Department of Agriculture.

Consumption for the first eight months, October through May, totaled 14.2 million tons, a gain of 685,000 tons over the same period last year.

Exports, mainly oilseed meals, totaled 487,400 tons for the first eight months as against 692,000 tons for the same months last season. Imports were up slightly from last year.

Oilseed meal consumption of 8.5 million tons, October through May, was 585,000 tons more than the same months of 1959-60. Most of the increase was in soybean meal, with disappearance this season at 6.2 million tons—417,000 tons above 1959-60.

Domestic feeding of cottonseed meal increased over 80,000 tons, with the increase due mainly to smaller exports. Consumption of other oilseed meals was up moderately from last year. Stocks of oilseed meals at the end of May totaled 495,500 tons, as against 404,000 tons last year.

Feeding of grain by-product feeds the first eight months of the season totaled a little less than 4.6 million tons—about the same as last season.

Consumption of millfeeds increased in May, bringing the season's total to about the same as last year.

Increased imports of fish meal together with larger domestic production brought domestic consumption to 203,000 tons the first eight months, as against 163,000 tons for the same period last year.

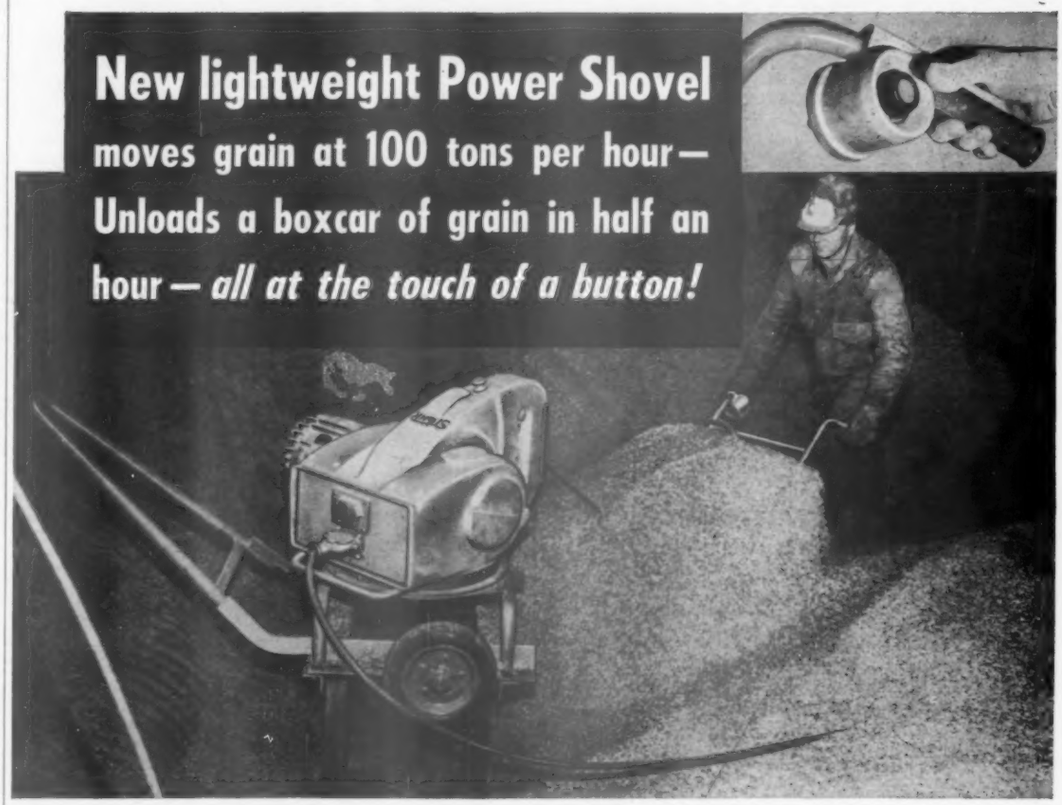
Alfalfa meal production got off to a slow start in May, but disappearance held up with the total since Oct. 1 at 876,000 tons, as against 790,000 for the same period in 1959-60, reports the USDA.

Ohio Nutrition Forum Scheduled

FOSTORIA, OHIO — Plans have been announced for the second Ohio Nutrition Forum, to be held Sept. 14 in Fostoria. The event for nutritionists will start at 9:30 a.m. with a tour of the Ohio Farmers Grain & Supply Assn.'s new feed plant.

Milton P. Kalmbach, industry chairman, and George R. Johnson, university chairman, announced that the program will deal with "Antibiotics in Ruminant Feeding" and "Calcium Levels for Laying Rations and Egg Shell Problems." The meeting will take place at the Fostoria Elks Club. Program details will be announced later.

The Ohio forums are arranged by join committees from Ohio State University, Ohio Experiment Station and Ohio Grain & Feed Dealers Assn.


New lightweight Power Shovel
moves grain at 100 tons per hour—
Unloads a boxcar of grain in half an
hour—all at the touch of a button!

Roto Shovel

Costs less to buy . . . works harder per dollar than any other power shovel

Just name the job . . . emptying trucks, unloading cars, clearing bins and storage, loading conveyors . . . this new kind of power shovel handles all of them quickly and safely.

The new Stohr Roto Shovel puts a giant pulling power of 1300 pounds right at your fingertips, thanks to its radically different push-button control. Just push the button and it starts . . . release it and the "dead-man" switch stops shovel travel instantly.

One man handles the entire operation safely and easily without extra help or bulky equipment . . . . no heavy counterweights, no need to completely unreel the cable every trip. Start anywhere you like.

Despite its rugged power, the Roto Shovel is so compact and light that you wheel it from job to job . . . even carry it in the trunk of your car, ready to work in seconds.

See how much more there is in Stohr for you! Mail this coupon today.

Seedburo
SEED TRADE REPORTING BUREAU
EQUIPMENT COMPANY

SEEDBURO EQUIPMENT COMPANY
618 West Jackson Blvd. Dept. FS-7
Chicago, Illinois

Gentlemen:

Please send me complete information on the new STOHR ROTO SHOVEL.

Name_____

Firm_____

Address_____

City_____ Zone____ State_____

USSR Industry Behind U.S., But Growth Mapped

WASHINGTON — The Soviet feed milling industry does not measure up to ours, especially in nutrition and distribution, but growth and improvement of the industry in the USSR are expected to be rapid to keep up with a concerted push behind beef, dairy and poultry production.

This, in a nutshell, is how the chairman of a group of U.S. milling industries' specialists compared this country's formula feed trade with its counterpart in the Soviet Union after a month-long tour of USSR state and collective farms, elevators and milling combines.

V. John Brensike of the U.S. Department of Agriculture's Economic Research Service reports in the July, 1961, issue of USDA's Agricultural Marketing that Russian feed milling lags behind the flour milling industry and far behind its American counterpart. And he said in a recent address before the Canadian Feed Mill Management School, Ontario Agricultural College, Guelph, Canada, "The lag is in nutrition and transportation rather than in technical equipment and plant design."

High-Protein Shortage

One of Russia's feed industry problems is a shortage of high-protein ingredients. Sunflower seed and cottonseed are the major sources of protein for animal feeding. Urea is used very little.

Although the Soviet Union produces more food grains—it is the world's largest wheat producer—its output of feed grains is less than that of the U.S.

The Russian feed industry, according to what Mr. Brensike and other members of his group were told, consists of 60 large and more than 2,000 small feed mills in the Soviet Union. The group saw evidence which indicates that this industry in the USSR is more a matter of feed mixing than strict ration formulation.

"Specific formulas are recommended," Mr. Brensike reports, "but the availability of local ingredients actually dictates the final formulas. All feed mills, large or small, mix all formulas from the ground up, with little or no supplementation of local ingredients. We were told that they have been adding antibiotics, vitamins and minerals (no hormones) for 18 months to two years. But the formulas we saw showed the addition of only salt and chalk."

As a result of Russia scheduling rapid increases in beef, dairy and poultry production, it is anticipated that "within about five years the Soviets will be adding antibiotics, vitamins and minerals to many feeds and will have coordination among large and small mills to reduce transportation, to supplement local ingredients and to fortify complete feeds," Mr. Brensike notes. "Growth of the industry is expected to be rapid but it is starting from a low volume level as compared to our current industry. . . . Emphasis on dual-purpose cattle and poultry may pose a problem for the Soviets in attempting to increase their livestock and poultry production."

Transportation Is Headache

Mr. Brensike says transportation is a headache for Russia's feed industry.

"In the past, feed milling for the most part was located adjacent to flour mills and was tied to flour mills' by-products," he explains. "While additional mills, both large and small, have been located nearer the feed demand, two farms we visited reported that all mixed feeds came to them from 750 miles away and that they also shipped grain to these mills for custom grinding and mixing." It appears, however, that Russia has plans for reducing the movement of grains and mixed feeds and has designed a compact milling unit for use on farms where the feed is fed.

Mr. Brensike reports that batch mixing is not common in Russia. "Line mixing is used not only in the large mills but in the compact stationary unit the Soviets plan to install on each state and collective farm," he says.

Rigid Control

Grain production plans in the USSR, especially for feed grains, are tied in with the national desire for a "better" diet, Mr. Brensike says. "And by 'better,' the Russians usually mean they want to match—and surpass—our grain output."

The seven Americans observed that all phases of production and marketing are rigidly controlled by the state —from planting to harvesting, shipping, processing and selling at the retail level. Most of Russia's major crop, wheat, is used for flour. Some is fed to cattle and perhaps 4-5% is exported.

"Production and marketing are run on a giant scale in the Soviet Union, but they have giant problems to match their operations," Mr. Brensike relates. "Long, severe winters, year after year, and drouths sometimes thwart higher production goals. USSR's transportation system in many rural areas is primitive. Its country roads are decades behind ours. Russians make use of their railroads the way this country did at the turn of the century."

Elevator Storage Short

Assembling elevators visited by the American group have a bin and flat storage capacity ranging from 50,000 to 150,000 metric tons. Elevator storage at milling combines and port elevators ranges from 24,000 to 150,000 metric tons. Turnover rates vary from 5 to 16 times a year.

"A shortage of elevator storage is a major problem, especially in the New Lands area," Mr. Brensike reports. "The USSR's seven-year plan calls for an increase of about one fourth in elevator storage by 1965, most of it to occur in the New Lands of the Kazakh and Ural regions.

How Elevators Differ

"We found Soviet elevator operations quite similar to ours in layout, flow and equipment, but in some other respects the industry differed:

- "Not only was much of the wheat cleaned on the farm, but cleaning equipment at each of the elevators and mills was designed to clean a much larger proportion of total receipts.
- "Likewise, the drying capacity of each location was designed to handle a much larger share than our industry handles.
- "The Soviets have pushed automation further, especially in the milling and export elevators, than we have. They have dust-collection attachments on every item of machinery handling grain and report no dust explosions or fire in any of their mills. And they have a vacuum-type sampler attached to a divider located just inside the building. Here the grain coming in from farms gets preliminary testing by four or five women, who within three minutes give the truck driver a receipt and a card with dumping and binning instructions.

"Minor differences include a drier using the same principles as ours but with some reported advantages: bucket elevator legs with a different type of bucket and a reported higher speed; a pneumatic system with smaller pipes and more power, which is used over longer distances."

Other members of the team led by Mr. Brensike included John C. Cowan, assistant to the president, Dannen Mills, Inc.; Roy C. Durham, technical consultant to the flour milling industry; Dr. Lawrence Zeleny and Leo E. Holman, Agricultural Marketing Service; Raymond E. Vickery and Eugene T. Olson, Foreign Agricultural Service.

BALLOON BRINGS 'SKY HIGH' SALES

WALTHAM, MASS.—An advertising balloon flying more than 100 ft. high has been responsible for "sky-high" sales in Wirthmore Stores in New England and New York State, according to officials of Wirthmore Feeds, Inc. The barrage-type balloon, 10 ft. wide and 51 in. in diameter, has been used to call attention to "Country Living Festivals" and the fact that Wirthmore Stores carry a complete line of home, garden and building supplies.

Two large panels on the balloon spell out "Wirthmore" and banners half way up the two ropes say "Open House." Radio and newspapers are used to tell people to follow the balloon to the Wirthmore Store.

At a New York location, an accident helped business. The balloon broke away from its mooring and disappeared. A reward was offered for return of the balloon, and a nearby air force base even had planes and helicopters looking for the "unguided missile," but without success. The publicity following the disappearance stirred up additional customer interest, officials noted.

The Feed Man's Library

Reader Service Department

Feedstuffs

POULTRY PRODUCTION, 9th Edition

By Dr. Leslie E. Card, professor of animal science, University of Illinois.

A book useful to the mastery of the science and practice of poultry husbandry. Includes statistics of the industry; principles underlying commercial production of poultry meat and eggs; newer findings relating to nutrition with special reference to amino acid and energy requirements. Discussion of automation in production and processing of poultry and eggs, economics of broiler production and commercial egg production..... **$7.00**

LIVESTOCK HEALTH ENCYCLOPEDIA, 2nd Edition

By Rudolph Seiden, D.Sc., in association with W. James Gough, D.V.M.

A comprehensive reference book which presents and coordinates recommendations of over 300 experts. Includes information on how to guard and improve the health of livestock; how to recognize, prevent and control diseases and parasites; how to use medications, feeds and feed supplements. Has a special diagnostic index..... **$9.50**

APPROVED PRACTICES IN DAIRYING

By E. M. Juergenson and W. P. Mortenson

This edition is completely up-to-date, and presents in plain and down-to-earth language the results of literally millions of dollars' worth of research by State Ag Experimental stations, the USDA, and successful dairymen throughout the nation. 300 pages, 101 illustrations **$4.00**

APPROVED PRACTICES IN BEEF CATTLE PRODUCTION

By E. M. Juergenson

Complete up-to-date findings on all phases of beef cattle production, a maximum of information with a minimum of reading; the author has condensed, in usable style, all the necessary facts and key points on this topic **$4.00**

APPROVED PRACTICES IN FORAGE AND FEED PRODUCTION

By G. M. Briggs and W. P. Mortenson

This book gives the knowledge gained from millions of dollars' worth of research presented in easy-to-read and practical form. 325 pages, 117 illustrations **$4.00**

• • •

FEED PRODUCTION SCHOOL TRANSCRIPTS

1958—BULK HANDLING of finished feeds; micro-ingredients, liquids, pelleting, mill remodeling **$15.00**

1958—SMALL MILL—Receiving and preparation; mixing; packing, storing and shipping; typical mill layouts; pelleting; dust collection **$5.00**

1959—PELLETING: wafering; crumblizing; methods and techniques and cost study **$15.00**

1959—SMALL MILL—Pelleting and related subjects, including cost facts and practical recommendations for the small mill **$5.00**

1960—PARTICLE REDUCTION of grains; PROPORTIONING ingredients; PREMIXING; MIXING principles; CONTAMINATION CONTROL and FDA requirements **$15.00**

Please Add 50¢ Per Book for Any Shipment Outside U.S. and Canada

ORDER FROM Reader Service Department
Feedstuffs
P.O. Box 67
Minneapolis 40, Minn.

OPEN HOUSE—Steckley's Mill & Hatchery, Inc., Kendallville, Ind., celebrated its 60th anniversary recently with an open house attended by about 1,000 persons. Here, Vernon Steckley, left, general manager of Steckley's Mill & Hatchery, which handles Master Mix Feeds, visits with D. W. McMillen, Jr., president of Central Soya, which manufactures Master Mix Feeds. Central Soya's president pointed out that Steckley's Mill & Hatchery was one of the first Master Mix Feed customers, having ordered 20 100-lb. bags of feed in March of 1935, the third month of operation by Central Soya's McMillen Feed Division. The Steckley business was founded by Vernon Steckley's father, George Steckley, in 1901 and now includes an elevator, feed mill, hatchery and farm supply store. The firm also has feed operations at Orland and Albion, Ind.

Texas Reports Lab Evaluation of Dried Rumen Contents

COLLEGE STATION, TEXAS—The Texas Agricultural Experiment Station has reported on a laboratory evaluation of dried rumen contents which indicates that "the drying process seriously decimates the beneficial microorganisms found in rumen contents, even when the best procedures are used."

The report, by Prof. J. M. Prescott of the department of biochemistry and nutrition, said: "It seems likely that the commercially dried rumen preparations used in these experiments are of dubious value in supplying useful microorganisms to ruminant animals. Feeding trials at the Texas station and elsewhere also have failed to establish a beneficial effect of these materials, and in the present state of their development, there is little reason to place much confidence in their eeffectiveness."

Report Quoted

Prof. Prescott's report on the research said:

"The principal useful functions of mocroorganisms in the rumen are: Digestion of cellulose and related materials, synthesis of protein from nonprotein nitrogen, such as urea, and synthesis of B-vitamins. Although the bacteria of the rumen carry out these functions for their own metabolic needs, nutritional benefit comes to the host animal from absorption of volatile fatty acids produced by the bacteria and from eventual digestion of the bacterial cells themselves. In view of these functions of rumen bacteria, it would appear that preparations of dried bacteria should be judged on the basis of their ability to carry out these processes rather than on the basis of their total viable count. A series of tests, therefore, were run in this laboratory to evaluate several commercial and experimental batches of dried rumen preparations.

"Our procedures involved the use of in vitro incubation techniques, sometimes referred to as the 'artificial rumen.' Experiments were conducted on the ability of the dried rumen preparations to digest cellulose and carboxymethyl-cellulose (CMC), to utilize nonprotein nitrogen (NPN) and to synthesize three B-vitamins—niacin, riboflavin and vitamin B_{12}. These activities of commercial dried products were compared with those of the microorganisms in fresh rumen fluid. Since the processes used to dry the commercial products were unknown, several dried preparations of highly active rumen material were made in the laboratory by freeze-drying, which is the most effective procedure for retaining microbial viability. The activities of these preparations were determined along with the commercial products and with fresh rumen liquid. Several different procedures were tested in some of the experiments for reactivating the desiccated bacteria. Samples representing five manufacturers were used; two companies supplied more than one control lot of their products, and one manufacturer furnished several experimental batches.

"In a large number of artificial rumen experiments, the microorganisms in fresh rumen fluid digested an average of 47% of the cellulose added, but none of the commercial dried samples digested more than traces of the cellulose. Rumen liquid, dried in the laboratory under carefully controlled conditions, also was ineffective in digesting cellulose. Thus, it appears that those organisms, which are responsible for cellulose digestion, do not withstand the drying process. When tested against carboxymethylcellulose (CMC), however, all of the commercial and laboratory-dried preparations were active, some to a very great extent, indicating that the organisms which digest CMC do survive drying.

"The CMC used in these experiments is a commercially produced derivative of cellulose, and differs from native cellulose in that it is water soluble. The contrast in activity shown by the dried rumen preparations against cellulose and CMC is good evidence that these two materials are digested by diffferent types of microorganisms in the rumen, and that the use of CMC is not suitable for predicting the digestibility of native cellulose.

"Not only were the dried rumen preparations low in activity toward cellulose, but they also failed to utilize NPN and to synthesize niacin, riboflavin and vitamin B_{12} to an appreciable extent. Fresh rumen fluid, however, was highly active in all of these functions."

Change Office Location

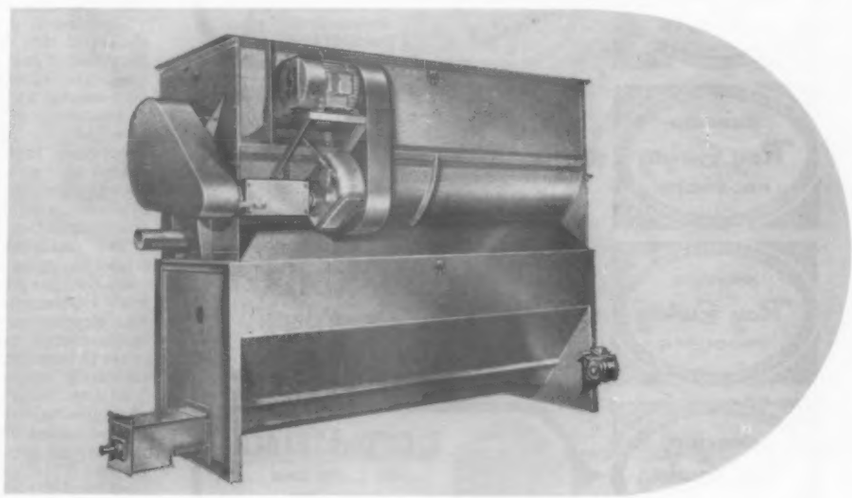
FRESNO, CAL.—The Pillsbury Co. has moved its feed ingredients office from 465 California St., San Francisco, to 1220 North Abby St., Fresno, Pillsbury's Minneapolis office has announced. Manager for the new office is John G. Lindau. Jack T. Ponting, former manager of the San Francisco office, is now a trader with the Bunge Corp. at 465 California St. in San Francisco.

Wenger

Better Mixing...Minimum Headroom with WENGER'S® New Batch Mixer and Surge Bin Combinations

BATCH MIXER
–SURGE BIN
–HOPPER
SCALE
simple, sensible automation

Available individually or in combinations as required. A complete packaged batching system—a trio of integrated equipment that offers you the greatest possible mixing capacity.



Engineered for maximum mixing through multiple agitation. Opposed ribbon spirals convey in opposite directions while paddles fold in center core of the batch.

Today's quality controls demand this better mixer. Multiple agitation of ribbon and paddle combination provides the most rapid and complete mixing action. Heavy duty construction permits closer tolerances than possible in other mixers. Outboard bearings eliminate contamination of feedstuffs by lubricants and reduce bearing wear.

Leveling screw in surge bin permits complete utilization of bin capacity resulting in lowest possible over-all height (mixer and surge bin 10 ft.) and consequently reduces excavation and other installation costs.

Put Wenger Imagineering to work in your mill. Bring us your mixing problems and let Wenger engineer the integrated batching system most ideal for you. Our recommendations are offered without obligation. Get in touch with Wenger today!

Wenger

... Milling Pacesetters through "Imagineering."

WENGER MIXER MFG.
Sabetha, Kansas AVenue 4-2133

SERVICE Ray Ewing PRODUCTS

DON HUCKLE
C.F.D.
P.O. Box 431
Binghamton, N.Y.
RA. 3-3521

SERVICE Ray Ewing PRODUCTS

Bill Thompson
THE TOMMY THOMPSON CO.
3617 Dryden Road
Fort Worth 9, Texas
WAlnut 3-0005

SERVICE Ray Ewing PRODUCTS

ALAN BADER
P.O. Box 267
Ogden, Utah
EXport 4-9323

SERVICE Ray Ewing PRODUCTS

George Zeibel
820 Mohigan St.
Charlotte 5, No. Carolina
FRanklin 7-1805

SERVICE Ray Ewing PRODUCTS

Jim Hourihan
18 Sky-hi Drive
W. Seneca, N.Y.
HObart 7493

SERVICE Ray Ewing PRODUCTS

Walt Krumbholz
The Lee Cook Co.
E. 41 Gray Ave.
Spokane, Wash.
Riverside 7-8063

SERVICE Ray Ewing PRODUCTS

HANK WILDER
539 East 2nd St.
Ames, Iowa
CEdar 2-4668

SERVICE Ray Ewing PRODUCTS

L. J. FOSTER
540 East J Street
Ontario, California
YUkon 6-7624

SERVICE Ray Ewing PRODUCTS

R.C."Dick" BLACK
527 E. 17th Street
Spencer, Iowa
Phone: 2832

SERVICE Ray Ewing PRODUCTS

BUD COOK
The Lee Cook Co.
79 S.E. Taylor St.
Portland 14, Oregon
BElmont 2-5164

SERVICE Ray Ewing PRODUCTS

W. E. Thompson
THE TOMMY THOMPSON CO.
3617 Dryden Road
Fort Worth 9, Texas
WAlnut 3-0005

SERVICE Ray Ewing PRODUCTS

EARL REEVES
1133 Manheim Pike
Lancaster, Penn.
EXpress 7-8164

SERVICE Ray Ewing PRODUCTS

BILL KIESER
FEED PRODUCTS, INC.
1370 11th Street
Denver 4, Colorado
AComa 2-5706

KRAFT FOODS MILK REPLACER PROMOTION—Kraft Foods, division of National Dairy Products Corp., Chicago, has announced plans to launch an advertising and merchandising program for its new, improved Kaff-A milk replacer. Photo shows John Zima (left), national sales manager for the Kraft Foods agricultural division; Hershell Lamb (center), manager of marketing for the division; and Bob Prenzno, advertising manager, giving final okay to packaging for Kraft's new Kaff-A milk replacer which will be introduced nationally during August. Mr. Lamb announced that the "biggest advertising and merchandising package ever assembled to back sales of a milk replacer" has been scheduled for the balance of 1961.

Supplementary Heat Units Affect Pig's Growth Rate: Illinois

URBANA, ILL. — Supplementary heat units had a significant effect on growth rate of pigs in tests conducted at the Agricultural Experiment Station, University of Illinois, Urbana.

That report was issued after completion of nine experiments to study the effect of environment on performance. The experiments involved 272 pigs weaned at 2 to 2½ weeks.

An average of all tests showed that none of the supplementary units (heat lamp, heat pad, heated and unheated hovers) significantly affected growth rate of pigs confined for 2 or 3 weeks in a chamber having constant temperatures as low as 38° F.

The researchers noted that pigs without supplementary heat required more feed per pound of gain than pigs with supplementary heat. This fact was reported to reflect the metabolizable energy used in shivering and other physiological reactions to maintain body temperature.

In one "farm" test in which temperatures varied from 25° F. to 66° F. and forced drafts were employed, pigs having access to heated hovers, grew 6% faster on 25% less feed than unprotected pigs.

Under the conditions imposed, body temperature was not significantly affected by environment. However, skin temperatures were significantly different when heat lamps provided supplementary heat, the researchers said.

They noted that blood analyses, red-blood-cell and white-blood-cell counts, hematocrit and hemoglobin did not prove sufficiently sensitive to indicate physiological stress as a result of imposed environments.

Pigs weaned at 2 to 2½ weeks of age adapted to constant temperatures as low as 38° F. when kept free of drafts and dampness.

Locating the feed inside the heated and unheated hovers did not improve feed efficiency, but slightly increased the rate of gain.

The optimum surface temperature of the heat pads, as determined by apparent comfort of the pigs, was about 110° F.

Thermostatically controlled 500-watt heat pads required approximately 2, 3 and 4 k.w. hours of power per day when chamber temperatures were 60° F., 50° F. and 40° F., respectively. A 250-watt heat lamp in continuous use required 6 k.w. hours per day, the researchers said.

West Virginia Poultry Convention Is Aug. 2-4

MORGANTOWN, W.VA. — Some light will be shed on the subject of using light in the poultry house during the 19th annual West Virginia Poultry Convention to be held at Moorefield, Hardy County, Aug. 2-4, according to Harold M. Hyre, associate poultry scientist at West Virginia University and chairman of the publicity committee for the event.

Dr. W. C. Skogland, chairman of the poultry science department at the University of New Hampshire, and Dr. Homer Patrick, chairman of the department of poultry science at West Virginia University, who will be two of the principal speakers at the West Virginia poultry convention, will reveal some of the latest findings concerning the use of light for chickens.

Dr. Skogland's subject will be "The Use of Lights in the Poultry House." It will include requirements, sources and management — "stimulite." Dr. Patrick's talk will include such topics as solar energy, biological stimulation, color effects and West Virginia's geographical position.

Other subjects to be discussed at the convention will include turkeys, the use of poultry and eggs in the diet and automation.

SERVICE Ray Ewing PRODUCTS

Gary Ferguson
533 67th Ave., N.E.
Minneapolis 21, Minn.
SUnset 4-2788

SERVICE Ray Ewing PRODUCTS

KENT EWING
2690 E. Foothill Blvd.
Pasadena, California
MUrray 1-4504

'Agribusiness Needs To Tell Public What It's Doing and Why'

KANSAS CITY — Public misinformation and restrictive legislation threaten to block progress demanded by the future of an agricultural evolution which has entered a decisive period, said Dr. William H. Pfander, University of Missouri animal husbandry professor, while attending a planning meeting for the Centennial Nutrition Conference to be held here in October.

W. H. Pfander

The outcome, he predicted, may depend on the job of positive salesmanship accomplished by farmers, educators and men in the feed, chemical and related industries during the next few years.

Dr. Pfander used the occasion to survey the recent history of food "scares"—from cranberries to broilers—and to speculate on its implications for the years ahead.

"If there's any one thing the expanding life blood of agriculture depends on, it's the continued supply of useful chemicals," Dr. Pfander said. "And if the public doesn't realize they're safe, legislation will come to block progress."

Places the Blame "At Home"

He said much-publicized "panics" have cast a number of agricultural chemicals in an undeserved villain's role, and he blamed this situation on people connected with agriculture and its related industries—not on "the food-buying public or its sometimes over-cautious lawmakers."

Dr. Pfander warned that the only way to avoid agricultural disaster is for the men engaged in modern, scientific agriculture to tell the public what they're doing and why they're doing it. "If people don't know, they're going to be against it," he said. "It's too late to tell them when you're called up to Washington for a hearing. You're already accused and tried.

"When a company has a compound it thinks is useful, it has to tell everybody about it—not just the ones that mix the product or the ones that sell it. That's the trouble. People in this business have been talking to themselves too long."

Dr. Pfander gave some examples of what the future might hold for an agriculture deprived of chemistry's advances.

Stilbestrol, the synthetic hormone, has increased beef yield 15-20% from the same amount of feed, he noted. Antibiotics have done the same with pork. The broiler industry, with concentrations of 30,000 birds or more under a single roof, would virtually disappear, Dr. Pfander said, without its chemical weapons against coccidiosis.

Emphasizes Research

"If agriculture is to meet the country's growing demands," Dr. Pfander said, "it will have to put increasing reliance on products from researchers' laboratories. There are unknowns that have to be answered. We know that it takes 8 lb. of feed to produce a pound of beef, and only 2 lb. to produce a pound of chicken. But we don't know why.

"If we can't find new chemicals to improve the efficiency of beef animals, we'll never do any better. And eventually we won't be able to produce enough.

"It's a real battle just to stay even, but that isn't sufficient. New things come along."

Urges Intelligent Controls

Dr. Pfander concluded that the success of agribusiness will hinge finally on the industry's ability to win the public to its side in the intelligent use of chemicals in food and feed production.

He described the Delaney Clause of 1958 as "the greatest single legislative setback in the course of modern agriculture" and indicated that its provisions, such as the one which says there is no safe tolerance for certain food additives, are unrealistic.

Dr. Pfander emphasized the need for establishing and administering intelligent controls. "Additives need to be approved and used correctly . . . but certain standards can be developed that still will allow their use," he said. "Our problem is one of public relations—how to get our story told."

At the Centennial Nutrition Conference in Kansas City Oct. 21-25, a University of Missouri exhibit prepared under Dr. Pfander's direction will outline the growing role of chemicals in agriculture during the last 100 years.

Sponsoring the event is the Midwest Feed Manufacturers Assn. in cooperation with the universities of Arkansas, Colorado State, Iowa State, Kansas State, Missouri, Nebraska and Oklahoma State, and Texas A&M College.

The conference, held in the centennial year of the founding of U.S. land-grant colleges, will recognize their century of contribution to agricultural science. Researchers, educators and leaders in the industry will study the challenges facing them in nutrition and its related fields.

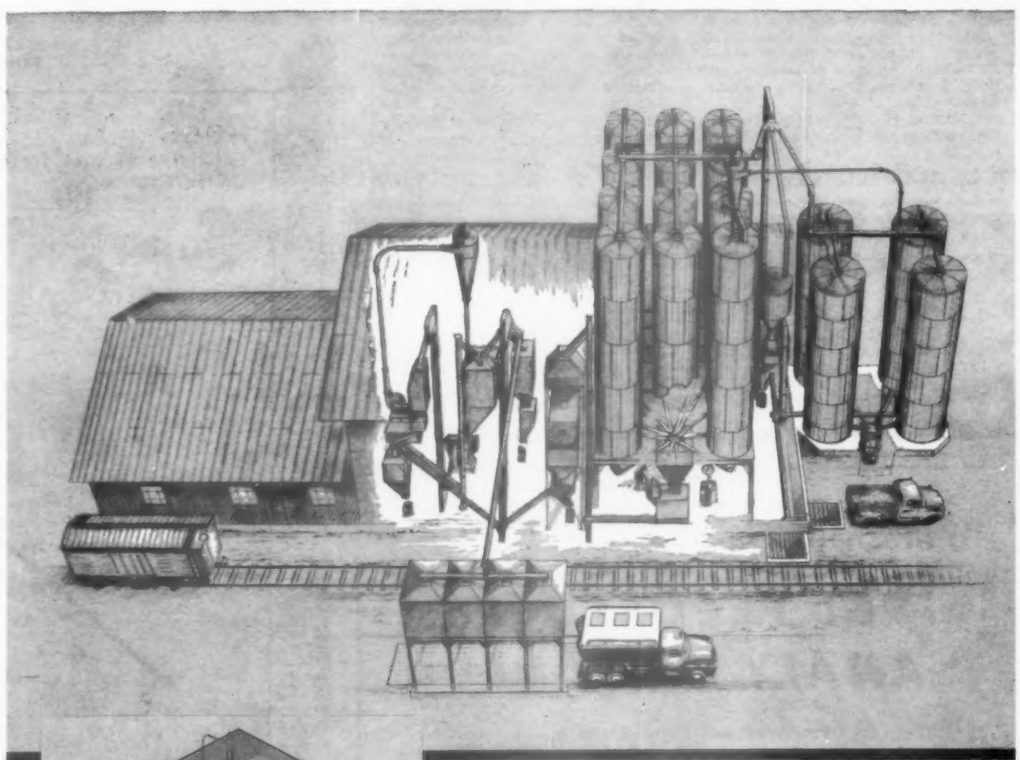
Liquid Supplement Distributor Named

MADERA, CAL.—Appointment of Sinton & Bonnheim Feed Co., Shandon, Cal., as distributor for P-M-S, a patented liquid feed supplement for ruminants, has been announced by J. F. Simonet, president of Madera Milling Co.

Sinton & Bonnheim's sales area is the trading market of Paso Robles, Cal., the announcement said.

Walter Bonnheim of Sinton & Bonnheim Feed Co. has installed new storage facilities and delivery services to handle the product, it was stated. Bob Livingston, formerly associated with E. C. Livingston and Power Equipment Co. in Paso Robles, has been named to sell P-M-S for Sinton & Bonnheim.

P-M-S is manufactured under a patent held by F. N. Rawlings of Caldwell, Idaho. Madera Milling Co. has the manufacturing and sales rights for P-M-S in California, Arizona and Hawaii.



COMMERCIAL FEED MILL or CUSTOM MILL ...

IT'S JUST GOOD BUSINESS TO USE SPROUT-WALDRON'S 95 YEARS OF EXPERIENCE

FOR 95 CONTINUOUS YEARS—Sprout-Waldron has been intimately associated with the feed milling industry from the day of the first feed grinder to today's fully automatic commercial feed mills.

Over this span of years, Sprout-Waldron has provided the engineering know-how, skill and experience—*and the most complete line of feed milling equipment*—required to design and build both large and small plants to return the greatest profits on your investment.

When you are going to build or modernize—whether your needs are for a complete commercial feed mill, a modernization program, a custom plant that can be expanded, or the replacement of a single production unit—it's just good business practice to get Sprout-Waldron into the picture.

Write or phone . . . there's no obligation when you request a Sprout-Waldron representative to call and you'll *be sure of the most efficient, most economical solution!*

Condensed feed mill equipment Catalog 217 is available on request. Write for your free copy.

SPROUT, WALDRON & CO., INC.

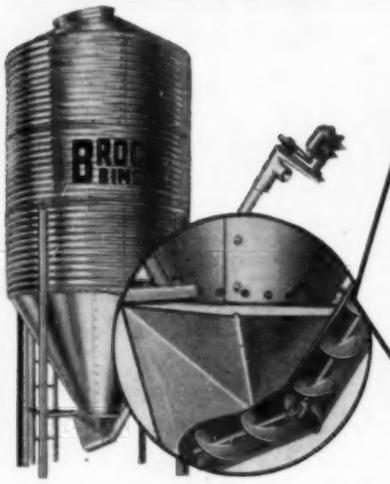
MUNCY, PENNSYLVANIA, U. S. A.

SINCE 1866 Manufacturing Engineers Producing America's Most Complete Line of Milling and Processing Equipment

MEMBER GRAIN PROCESSING MACHINERY MANUFACTURERS ASSOCIATION

Worth Crowing About!!

FEEDSTUFFS WANT ADS



NEW "All-Out" Brock BULK FEED BIN Bottom

Ends Bridging and Clean-Out Problems!

The auger and the new Brock "All-Out" Bottom form a single unit with no reduction in bin capacity! Now, the large 4" auger enters the *entire* bin bottom. This greater penetration allows the auger to reach *all* the feed. Agitation is increased; and bridging, jamming and sticking are virtually eliminated.

Brock Bulk Feed Bins with the new "All-Out" Bottom are available in both side-draw (4- to 8½-ton sizes) and center-draw (3- to 7½-ton sizes) models in 6' and 9' diameters. Rugged weatherseal construction features heavy-guage galvanized steel; girder-like angle-iron legs with steel bracing, and caulked seams and bolts with Neoprene washers. Easy-to-reach, *slanting* 22" fill-hole permits filling the entire bin. There is no better bulk feed bin made! *Write for literature and prices today.*

BROCK MANUFACTURING, INC. • DEPT. F-1 • MILFORD, INDIANA

AUBREY FEED MILLS

RED A FEEDS

LOUISVILLE, KENTUCKY

SERVING THE GREAT SOUTHEAST

Wall Chart Available . . .

1961 FEEDSTUFFS ANALYSIS TABLE

Prepared and Copyrighted by

Charles H. Hubbell, Feed Consultant, Chicago

The 1961 Feedstuffs Analysis Table, showing the analysis of more than 80 feed ingredients, is available in a large size for posting on the wall for handy reference.

The table includes data on protein, fat, fiber, mineral, energy, vitamin and amino acid content of ingredients used in feed formulation.

The large size table is 20 by 29 inches. It is available at a price of $1.00 per copy.

FEEDSTUFFS **P.O. Box 67**
Reader Service Department **Minneapolis 40, Minn.**

Please send ..... copy(ies) of the large size Analysis Table for which payment at $1.00 per copy is enclosed.

NAME .....

TITLE .....

COMPANY .....

ADDRESS .....

CITY ..... ZONE..... STATE.....

UP OR DOWN

By Dr. Leonard W. Schruben, Agricultural Economist, Kansas State College

More Hogs to Feed

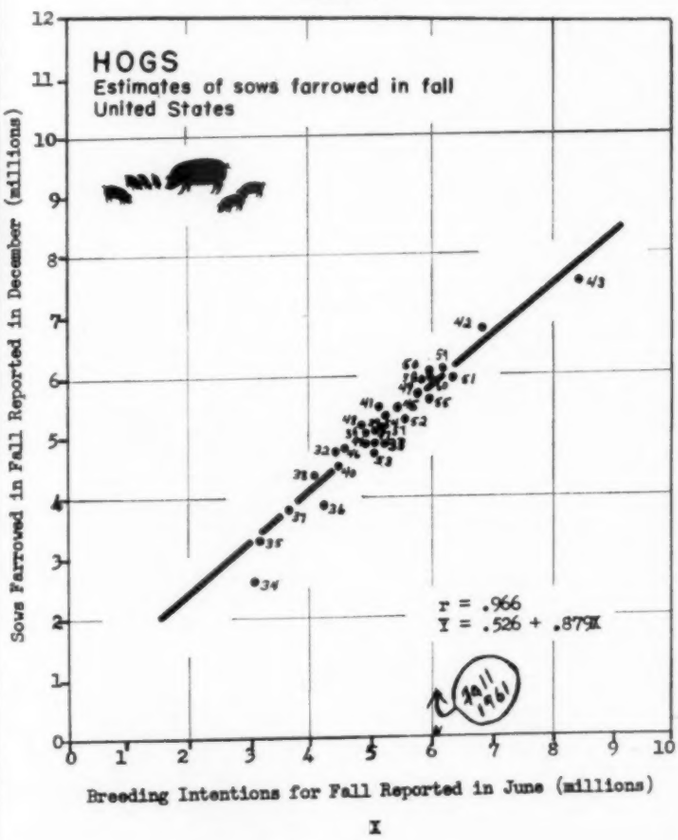
More hogs this year are indicated in plans by farmers. Official reports by the government indicate farmers intended to farrow over 6 million sows this fall. After allowing for an upward trend in pigs saved per litter, these intentions would mean a fall pig crop 3% above last year's fall crop. This year's spring crop was 7% larger than in 1960. Hog production for both the spring and fall crops in 1961 would be 93 million head, up from 88.5 million in 1960.

In order that you might better plan your operations it would be a good idea to ask how closely these intentions have been followed in past years. We have prepared Exhibit 1 in order for you to get a better picture. This exhibit may look complicated but if you are planning your feed sale operations on the basis of current statistics you can well afford to spend a little time learning how to read the chart. It's easy to read once you get the knack of it.

How to Read It

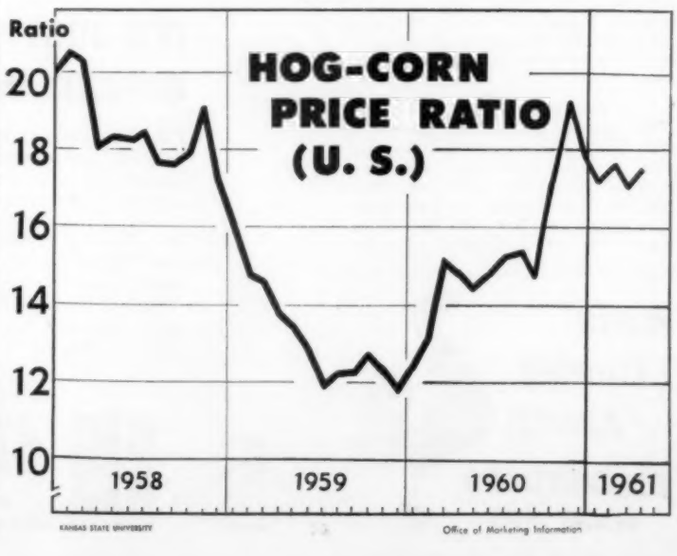
Here is how to read Exhibit 1. Each year is represented by a dot. This dot is located by finding the June estimate of the year in question on the bottom scale. Then you read up until you are even with the number reported farrowed in a late winter report as shown on the vertical scale. If intentions were exactly

EXHIBIT 1


HOGS
Estimates of sows farrowed in fall
United States
Sows Farrowed in Fall Reported in December (millions)
Breeding Intentions for Fall Reported in June (millions)
r = .966
Y = .526 + .879X
Fall 1961
0 1 2 3 4 5 6 7 8 9 10 11 12

X

EXHIBIT 2



carried out each year, each dot would fall on the diagonal line.

To use the chart this year you find the intentions indicated by the arrow on the bottom column. Then read up until you are even with the diagonal line. You then read over to the vertical scale to see what the likely outcome will be. You can see that in the range of 6 to 6.3 million head the intentions seem to be carried out fairly closely. On extremely large crops intentions do not seem to be fulfilled and in years when the intentions are for small crops they tend to be somewhat exceeded.

In Terms of Prices

What does the pig crop mean in terms of hog prices this coming fall and next spring? To help answer this you should examine the hog-corn price ratio chart shown in Exhibit 2. When the hog-corn price ratio is high, hog farmers are encouraged to increase the number of pigs farrowed. When the hog-corn ratio is low, farmers are stimulated to get out of production.

As you can see from Exhibit 2, the hog-corn ratio in the current cycle reached a peak in the fall months of 1960. This encouraged the large 1961 spring pig crop. The hog-corn price ratio has been declining rather steadily since and is expected to decline even further. Particularly will this be true if higher feed grain price supports result in higher feed prices. This means that hog prices are likely not to be so profitable relative to the price of feed.

Manufactured feed may be a little harder to sell hog producers this coming season. You can help by providing sound advice and efficient feed to your customer. But chances are pretty good that farmers will feel a squeeze between feed and hog prices as 1962 arrives.

Number of Canadian Hogs Increases 7%

OTTAWA, ONTARIO — Hogs on Canadian farms June 1 numbered an estimated 5,889,000 head, an increase of 7% from last year's corresponding total of 5,483,000 head.

Prince Edward Island, Quebec and the prairie provinces reported increased hog numbers, while the remaining provinces posted decreases, according to the figures announced. The average gain was 14% in the west versus 2% in the east. The spring pig crop (pigs saved from litters born during the six-month period ending May 31) of 4,693,000 head was 11% larger than a year earlier, with a rise of 4% in the east and a gain of 22% in the west.

According to intentions reported by farmers June 1, about 635,000 sows are expected to farrow during the six-month period from June 1 to Nov. 30 this year. This would be an increase of 18% from the estimated farrowings in the like 1960 period. June, July and August farrowings are expected to amount to 347,000, up 17% from last year. However, since these intentions were reported June 1, widespread drouth has prevailed in the prairie provinces and a very low grain yield is now in prospect. Considerable modification from reported intentions for fall farrowings may occur due to the feed situation, officials say.

California Mill Destroyed by Fire

SANTA ROSA, CAL. — Fire destroyed the mill facilities of Nelligan Bros. Feed & Seed Co. here.

Francis Nelligan, manager, reports that the firm will not be issued a new building permit because of problems it had been having with zoning authorities due to its location near new housing. Mr. Nelligan said that the Corona Feed Mill located at Corona Station near Petaluma will custom mill feed formulas for the firm he manages.

Compare Holstein Steers in Beef Tests

OTTAWA, ONT.—Holstein steers raised as fed yearlings from spring calves brought satisfactory returns even though the carcasses were not smooth and well finished, according to the Canada Department of Agriculture.

At the Animal Research Institute of the Canada Department of Agriculture in Ottawa, 18 Holsteins gave lower returns over feed costs than did 17 Shorthorns (the highest) and 14 Shorthorn-Holstein crosses. But, according to W. A. Jordan, Canadian Department of Agriculture, the returns were satisfactory and the Holsteins compared well with their two competitors in the tests.

Half of the calves in each of the three groups were suckled; the others pail-fed on whole milk for the first nine weeks of the test.

The suckled calves had access to a creek from mid-summer until weaning in the fall. After the first nine-weeks the pail-fed calves were fed meal and hay until mid-summer, then put on aftermath and given all the meal they would eat.

In late fall all calves were fed a fattening ration of silage, hay and grain and the following spring were slaughtered as they reached market finish.

Average gain of the Holsteins and crossbreds was 1.72 lb. daily from birth to market, and for the Shorthorns 1.65 lb. During the winter fattening period the Holsteins ate 9 lb. grain daily, the Shorthorns 8.5 and the crossbreds 8.1. In spite of the extra grain consumed by them, the Holsteins had the poorest type and quality of carcass, as they tended to grow and develop instead of putting on fat.

Holstein carcasses graded 34% standard and 66% commercial; Shorthorns 6% red, 23% blue, and 18% standard and 53% commercial. The crossbreds' grades were intermediate.

Average cold carcass weights of the Holsteins, crossbreds and Shorthorns were 438, 404, and 406 lb., respectively; dressing percentages 53.0, 54.6 and 54.9. The suckled calves in each group finished considerably heavier than the pail-fed ones. The returns over feed costs from all calves were satisfactory.

LA BUDDE
MILWAUKEE, WIS.
MALT SPROUTS
BREWERS GRAINS
DISTILLERS GRAINS
BEET PULP
AND 44 OTHER FEEDS

Peebles' DDF...

hard-working premix that tantalizes K-9 appetites

Peebles' DDF is actually 3 premixes in 1! Has real cheese for flavor and aroma to perk up canine appetites. Contains health-building milk nutrients dogs need for superior bone structure, glossy hair coat and peak vitality. And... DDF is fortified with all the vitamins vets consider necessary in a well-balanced dog food.

DDF functions as a single ingredient for dry and wet dog foods or biscuits to cut mixing and storage costs. For prices and additional product information, write or phone us today.

Foremost

WESTERN CONDENSING COMPANY
Appleton, Wisconsin • *World-Wide Supplier of Quality Milk Products*
DIVISION OF FOREMOST DAIRIES, INC.

☆ Classified Ads ☆

Classified advertisements received by Tuesday each week will be inserted for the issue of the following Saturday. Rates: 25¢ per word; minimum charge $3.75. Situations wanted, 20¢ a word; $3.00 minimum. In figuring cost of your classified ad . . . each word, abbreviation, telephone exchange and number, set of initials, or group of figures counts as a word. To the number of words in your want ad itself add six (6) words for your name and address or name and address of your firm. This applies for both direct-reply ads and for blind ads containing a box number. If an ad is keyed, care of Feedstuffs, 25¢ per insertion additional charged for forwarding replies. Commercial advertising not accepted in classified advertising department. Display advertising accepted for insertion at minimum rate of $14.00 per column inch. No discount on ads ordered for more than one insertion. All Want Ads cash with order.

HELP WANTED

WANTED—YOUNG MAN TO HELP ME rebuild grain plant. Must be able (or willing to learn) to assume management. Salary open. Option to purchase into part ownership from profits. R. H. Myers, Box 26, Ashland, Ky., phone 325 4759.

REGIONAL MANAGER WANTED TO SUpervise franchise sales in Iowa, Nebraska and Minnesota for major poultry breeder. Good salary. Expenses paid. Car furnished. Unusual opportunity. Address Ad No. 7038, Feedstuffs, Minneapolis 40, Minn.

WORLD'S OLDEST AND LARGEST DIrect selling company handling a complete line of animal health products, pre-mixes and insecticides requires two Ag college graduates for sales training and promotion work. Prefer three to five years' Voc. Ag. teaching experience, or equivalent with writing background. Some travel involved. Address Ad No. 7031, Feedstuffs, Minneapolis 40, Minn.

SALES MANAGER FOR PROGRESSIVE firm specializing in vitamins for feed industry. Must have good writing ability, knowledge of feed field, especially poultry, some technical background in chemistry or nutrition, must be willing to travel extensively and relocate in New York City area. Send in confidence complete data and salary requirement. All of our employees know of this ad. Address Ad No. 7019, Feedstuffs, Minneapolis 40, Minn.

ENGINEER — PREFERABLY CIVIL, UNder fifty, with broad industrial experience, designing and estimating wheat, corn and soybean storage and processing facilities. Duties include consultation with clients, technical evaluations, developing design concepts, investigation and reports and construction costs estimating. Must be sensitive to the business aspects of engineering and projects in terms of time and money budgeting essential. Weitz-Hettelsater Engineers, 1911 Baltimore Ave., Kansas City 8, Mo.

PROGRESSIVE ORGANIZATION MANUfacturing a leading feed ingredient is seeking a sales division president. Large salary, profit sharing and liberal benefits. Should be able to create new marketing opportunities, aggressively sell a line of new ingredient products, and supervise a sales force. Must be acquainted with nutritionists and mill executives along eastern and southeastern seaboards. Selling experience to feed mills and mixers required. At least one degree in animal nutrition desired; advanced degree preferred. Send detailed resume in confidence. Address Ad No. 7058, Feedstuffs, Minneapolis 40, Minn.

PLANT ACCOUNTANT-CREDIT MANAGER

Required by major multi-plant feed manufacturer. Applicants being considered for several plant locations. Prefer experience in accounting and credit management with a feed manufacturer or allied trade. Excellent opportunity. Send confidential resume.

Address Ad No. 7054, Feedstuffs Minneapolis 40, Minnesota

SALESMAN WANTED

To travel established territory consisting of Arkansas, Mississippi, and Louisiana for National Manufacturer of Mineral-Vitamin Supplements and Feed Fortifications. The man we are looking for should be between 30 and 45 years of age, and must have experience in calling on the feed manufacturing trade. A background in animal nutrition is preferred. An excellent opportunity for the right man with a fast growing, progressive company. We furnish automobile and expenses. All replies held strictly confidential. Send full details with recent photo to

VIT-A-WAY, INC.
P.O. Box 4311, Fort Worth, Texas

Use Feedstuffs WANT ADS for RESULTS

HELP WANTED

COMPTROLLER — 25-40 YRS. OLD. CPA certificate pref., must be able to effectively handle people. Generous grp. ins., hospitalization for entire family and profit-sharing plan. For interview, contact Mr. R. L. Brodey, Pioneer 2-7161, bet. 8 a.m.-5 p.m. A. W. Perdue & Son, Inc., Salisbury, Md.

VERY BIG IMPORT - EXPORT SPANISH company needs for Spain aggressive personable specialist in trade of feedstuffs, grain meals and expellers in order to create that commercial and representation branch in the company in view of important and continuous imports and demand in Spain. Write complete details, qualifications confidential to Siberex, Juan de Mena 6, Madrid.

BUSINESS OPPORTUNITIES

PURINA FEED STORE IN NORTHERN California. Father and son opportunity. $10,000 plus inventory. Owner wishes to retire. Route 3, Box 3697, Oroville, Cal.

FOR SALE—WELL EQUIPPED ILLINOIS feed mill, good opportunity. Address Ad No. 7050, Feedstuffs, Minneapolis 40, Minn.

SOUTHERN CALIFORNIA — FEED, SUPplies, chicks, hardware. Good volume. High net. Light competition. Two man operation. Age. Address Ad No. 7033, Feedstuffs, Minneapolis 40, Minn.

FOR SALE—FEED MILL IN NORTHERN Colorado. Purina feeds and other top lines. Several farm supply distributorships. Complete feed processing and grain storage. A thriving business but illness forcing sale. Address Ad No. 7061, Feedstuffs, Minneapolis 40, Minn.

FOR SALE — GRAIN ELEVATOR, FEED mill and seed business. Modern equipped elevator and feed mill sets on three acres of ground with a six car rail siding. Located in prosperous farming area of Southern Indiana. Address Ad No. 7064, Feedstuffs, Minneapolis 40, Minn.

FOR SALE — COMBINATION GRAIN, feed, seed, fertilizer, agricultural chemicals, garden supply store and elevator. Northern Colorado. All equipment in A-1 shape. Warehouse and feed mill new since 1955. Gooch's Best franchise. 125,000 bushel storage. Gross sales last year $397,000. Address Ad No. 7063, Feedstuffs, Minneapolis 40, Minn.

MODERN MONOLITHIC CONCRETE ELEvator, 300,000 bushel capacity, Hot Spot equipment, dryer, scales, rail siding, federal highway. Principal stockholder deceased, price $275,000. Also small elevator, feed, seed cleaning business with good line of machinery, on railroad, price $60,000—both elevators in south Georgia. For details write or call Farmcraft Associates, Americus, Georgia; Phone 2904.

SITUATIONS WANTED

SALES MANAGER OR NUTRITIONIST. 12 years experience. Iowa State graduate. Age 38, successful background. Address Ad No. 7062, Feedstuffs, Minneapolis 40, Minn.

EXPERIENCED NUTRITIONIST DESIRES responsibility product development, sales, technical service; feed or pharmaceuticals. Address Ad No. 7069, Feedstuffs, Minneapolis 40, Minn.

MANAGEMENT-CHEMICAL ENGINEER — Experienced plant manager, plant production superintendent in grain, feeds, soybean processing, fats, oils, hydrogenation, vitamins, distillery, dry-wet milling, food, chemicals. Address Ad No. 6994, Feedstuffs, Minneapolis 40, Minn.

MACHINERY WANTED

WANTED — GOOD USED DELTASEAL machine for two, five, and 10 lb. meal. Price must be reasonable. Gurley Milling Co., Princeton, North Carolina.

WANTED TO BUY — RICHARDSON scales, bag closing machines, other good flour, feed and grain machinery. Complete plants bought and sold. Appraisals. J. E. Hagan Mill Machinery, Box 574, Jefferson City, Mo.

MACHINERY FOR SALE

LARGE CAPACITY 20 IN. GEHL HAMMER mill. Excellent condition. Hudson Elevator, Hudson, Wisconsin.

FOR SALE—EXPANDED DRY DOG FOOD line. A-1 complete. Address Ad No. 7066, Feedstuffs, Minneapolis 40, Minn.

1957 DAFFIN MOBILE UNIT ON 1957 Chev. truck, both in very good condition, with molasses blender and air unloader. Ray Heuser, Seymour, Wisconsin.

FEED MIXER, 1-TON CAPACITY, GUARanteed first-class throughout, 5 H.P. motor drive. Address Ad No. 3479, Feedstuffs, Minneapolis 40, Minn.

WHIRLAWAY AIRBLAST CAR LOADERS, flour, feed and grain machinery. One of the oldest and largest experienced equipment houses. J. E. Hagan Mill Machinery, Box 574, Jefferson City, Mo.

MOBILE MILLS, NEW, USED AND FACtory rebuilts. Complete with grinder, mixer, diesel, molasses. Financing available. Iowa Portable Mill Co., Oelwein, Iowa.

GMC MODEL V555—FULL AIR BRAKES— Tandem with four compartments—Sprout Waldron pneumatic feed body with self-loader attachment. General GMC Sales, Inc., Lakewood, New Jersey. Phone: FOxcraft 3-7400.

SEWING MACHINES—ALL TYPES CONveyors, swinging units, portables. New and used. Fischbein, Union Special, Minneapolis. Complete rebuilding and service. McCullough & Co., 8205 Paradise Lane, Kansas City 34, Mo.; South 1-2857.

FOR SALE—ENCLOSED MOTORS; RICHardson scale; truck scales; hammermills; oat crimpers; horizontal and upright feed mixers; sewing machines; elevator legs; screw conveyors; molasses mixers and pellet mills. J. E. Hagan Mill Machinery, Box 574, Jefferson City, Mo.

MODEL 1958 DAFFIN FEED MOBILE mounted on International Harvester model No. A-160 truck with air unloading. 2,400 hours on diesel, 34,000 miles on truck. New paint job. Excellent condition. Price $14,500. Address Ad No. 7040, Feedstuffs, Minneapolis 40, Minn.

FOR SALE — GRUENDLER GRINDER Hammermill, directly connected to 200 h.p. Fairbanks 1765 r.p.m. splash-proof motor—complete with compensating starter and mail fuse switch box.
ALSO—Jacobson Blower, model 7512S 24x12 in. without motor. This unit is in very good condition and has about 10 screens (part new) which will be included with above unit. Priced for quick sale $6,500, f.o.b. Scottsbluff, Neb. Address Ad No. 7053, Feedstuffs, Minneapolis 40, Minn.

GUARANTEED REBUILT PELLET MILLS

All types of dies and roller shells. 15 years' experience. All dies guaranteed 1,500 tons.

Feed & Grain Milling Accessories Co.
9545 E. Rush Street El Monte, California
CUmberland 3-6044

LIQUIDATION
GRAIN PLANT
OMAHA, NEBRASKA
BIG SAVINGS

1—Sprout-Waldron 30" burr mill, 25 H.P.
2—Louisville 4'x30' steam-tube dryers.
1—Prater No. 20 Blue Streak hammermill.
1—Louisville 4' 6"x25' steam-tube dryer.
6—Horizontal germ reels.
8—Allis-Chalmers degerminators.
2—Allis-Chalmers interplane grinders.
2—French oil screw extraction presses.
8—Forster hammermills, 75 and 100 H.P.
6—Davenport No. 2A Dewatering presses.
Also—Screw conveyor and bucket elevators, pumps, steel bins and tanks, dewatering screens, filters, welders, pipe, structural steel, etc.

SEND FOR CIRCULAR NO. 960A

Perry Equipment Corp.

1403 N. 4th St. Philadelphia 22, Pa.
POplar 3-3505

FEEDSTUFFS—*LEADER in its field*

More advertisers use FEEDSTUFFS than any other publication in the feed industry

New Egg Marketing System Developed in South Dakota County

SIOUX FALLS, S.D.—A new egg marketing system is being developed for Minnehaha County in South Dakota. The plan is a type of pooling arrangement under which cooperating farmers' eggs are trucked to Lakefield, Minn., to be processed and marketed.

Land O'Lakes Creameries, Inc., is in charge of sales, it was reported here.

The Sioux Valley Milk Producers organization has joined the effort and picks up eggs on farms twice weekly. The milk producers, in return, purchase commercial feed supplements to be distributed to the egg producers. Also included in the service is a feed milling operation which utilizes homegrown grains in developing balanced poultry rations.

The new program costs producers about a cent for each dozen eggs, and is the first result of a country agriculture planning committee formed two years ago.

In studying area problems it was noted that although Minnehaha County leads the state in egg production, approximately 82 million yearly, only one fourth of the eggs are marketed locally.

Pickup operations began May 15. Within three weeks trucks were picking up 220 cases a week. They soon expect to be trucking 600 cases weekly. Eggs picked up at farms on Friday are now on store counters in Philadelphia, Pa., and Syracuse, N.Y., the following Wednesday. "Middlemen" have been cut from 8-10 to only 3.

A feed company fieldman has been appointed to acquaint farmers with the minimum standards for the quality program. These include frequent egg gathering, sanitation requirements, balanced feed program and the use of an egg cooler.

There are some 150 farmers waiting who want their facilities inspected so they may join the program, it was pointed out.

Oklahoma Firm's New Mill Operating

MUSKOGEE, OKLA. — After a long period of renovation, the Cole Grain Co. here has a new push button feed mill in operation. The company added a new pellet mill and increased the bulk storage for grain and finished feed. Capacity of the mill for making cattle feed is now about 15 tons per hour.

In addition to the regular feed mill, the company will also use an extra pellet mill from its alfalfa dehydrating plant during the winter months.

Interest in cattle feeding is steadily increasing in eastern Oklahoma, according to Harold Featherstone, sales manager. He says several cooperative financing plans for cattle feeding are now being planned.

Central Soya Dividend

FT. WAYNE, IND.—The directors of Central Soya Co., Inc., Ft. Wayne, have declared a quarterly cash dividend of 27½¢ per share on the capital stock of the company, payable Aug. 15 to stockholders of record at the close of business, July 28, 1961, according to Dale W. McMillen, Jr., president.

This is the fourth quarterly dividend of the current fiscal year and a continuation of the company's record of cash dividends, which has been uninterrupted since 1942.

At the same time, a 2% stock dividend, payable Aug. 15 to stockholders of record at the close of business, July 28, 1961, was also declared by the board of directors. This is the fifth such 2% stock dividend declared by the directors since its inauguration in 1957.

FRENCH FEED DELEGATION — Grain Processing Corp. of Muscatine, Iowa, was a recent host to a delegation of feed men from France, who were visiting in the U.S. to study ways and means of manufacturing and marketing feed economically. While in Muscatine, the group conferred with the production, research, nutritional, marketing and sales personnel of Grain Processing, and then toured other feed manufacturing plants in Iowa and Illinois. The four-man group from France is shown here with officials of Grain Processing. Front row, left to right, are: Jean Abonnenc, president, Abonnenc Co.; Andre Delorme, president, Sodel Co.; Jacques Bourassin, director, Bourassin Co., and Francis Deffrennes, technical director, Huileries de Valenciennes. From left to right in the back row are officials from Grain Processing. They are: C. D. McDermott, vice president of sales; Frank J. Prochaska, executive vice president, and James H. Kent, vice president.

Seek Protection of U.S. Food Supply

EVERGREEN, COLO.—"In case of war, the American public possesses an invaluable supply of food, and the grain and feed industry is seeking to assure the careful protection of this resource," an executive of the Grain & Feed Dealers National Assn. said here.

Madison Clement of Waco, Texas, chairman of the executive committee of the association, reported on the results of a three-day meeting to formulate plans for the years leading up to 1965.

"Operation Orbit," as the meeting was called, was attended by executive committee members from Washington, California, Texas, Kansas, Michigan, Ohio, Pennsylvania and Washington, D.C.

Mr. Clement said a large part of the "Operation Orbit" meeting was devoted to the planning of programs and projects to serve the American public. "A major job at this time is conserving the free world's greatest asset—our food supply," he said. He said the national association is embarking on a research project to protect this asset.

The grain and feed executives stressed the superiority of America's agricultural system which has produced a food supply which Communist countries have failed to attain.

Charles Force, president of the association from Kalamazoo, Michigan, emphasized the desire of the grain and feed industry to take the lead to spearhead the drive to protect this food supply and preserve it for use by the free world in case of atomic attack.

The grain and feed executives pointed out the recent situations which have led the U.S. almost to the brink of war, and itemized the Berlin situation as another such area of alarm. The only large quantities of food which would be usable after an atomic attack would be the grain supplies which are being conserved by grain warehousemen throughout the U.S. "It is the duty of the grain and feed industry to protect this food supply, which could well determine the future of this nation," Mr. Force said.

The executive committee represents 1,650 direct national members, plus about 15,000 grain and feed dealers represented by 49 state and regional associations affiliated with the Grain & Feed Dealers National Assn.

Teletype Egg Selling Studied in Canada

TORONTO, ONT.—Auction selling of eggs by teletype is the latest idea to be studied by the Ontario Poultry Producers Assn. The organization has been developing a marketing plan for the past two years. The possibility of using teletype, similar to the system introduced into hog marketing in the province this year, has prompted directors to take another look at their plans.

A special meeting of the board of OPPA was held here June 28 with representatives of the Bell Telephone Co., the company that developed the system for the hog marketing board. A special committee was named to further study the usefulness of an auction system with the teletype method of communication as part of it.

2 Ag Scholarships

MINNEAPOLIS — Two $300 agricultural scholarships have been awarded to students at Iowa State University, Ames, by International Milling Co., Minneapolis.

The students are James D. Johnson from Latimer, Iowa, and Stanley L. Oxenreider, Indianola, Iowa.

Each year the Supersweet Feeds division of International awards one scholarship each to an Iowa State junior and senior majoring in animal husbandry, poultry husbandry or dairy husbandry. Both Mr. Johnson and Mr. Oxenreider are students in the department of animal husbandry.

FOR ALL APPLICATIONS

PAXCO DEHYDRATED CORN COB MEAL is available in six grinds—from the coarsest to the finest — for all feed applications—roughage, pellets and as a carrier for molasses and feed additives. Write today to:

PAXTON PROCESSING CO., INC.
P. O. Box 120 Phone 222 Paxton, Illinois

The Weigh-Burro bulk scale is self-discharging, rugged, durable. Easy rolling wheels. Scale cap. 1000 lbs.
Order by collect wire today.

BURROWS

Burrows Equipment Company
Dept. C-7, Evanston, Ill.

SEND FOR CIRCULAR

BLUE STREAK Prater

ACCURATE BLENDING OF CONCENTRATES FOR BEST DOLLAR RETURNS FROM ANIMAL and BIRD FEEDING with the

BLUE STREAK Prater TWIN-SPIRAL TWO-SPEED MIXER

7 SIZES
½ Ton—5 Ton—all oversize to handle full loads of even the lightest feeds.

SEND FOR BULLETIN 954 TODAY

PRATER PULVERIZER COMPANY
1537 So. 55th Court • Chicago 50, Illinois

Cut-away view of America's first and only Twin-Spiral Two-Speed Mixer—doubles your capacity per horsepower!

FEEDSTUFFS—*LEADER in its field*

More advertisers use FEEDSTUFFS than any other publication in the feed industry

Reprints Available . . .

1961 FEEDSTUFFS ANALYSIS TABLE

Prepared and Copyrighted by
Charles H. Hubbell, Feed Consultant, Chicago

Reprints of the Analysis Table and the notes that accompany it may be obtained at these prices:

Single copy	20c
3 to 5 copies	10c each
10 or more	5c each

(Colleges and experiment stations will be furnished a reasonable number of reprints for their own use free of charge on request.)

FEEDSTUFFS
Reader Service Department
P.O. Box 67
Minneapolis 40, Minn.

Please send ..... copy(ies) of the 1961 Feedstuffs Analysis Table, for which payment is enclosed.

NAME .....
TITLE .....
COMPANY .....
ADDRESS .....
CITY ..... ZONE..... STATE.....

The Feed Man's Library

Reader Service Department

Feedstuffs

FEEDS AND FEEDING, 22nd Edition

By Frank B. Morrison and Associates

Feeds and Feeding has again been entirely revised, because of the many discoveries made in nutrition and livestock feeding. In this 22nd edition, particular emphasis is placed on the new developments. The numerous experiments are summarized which have dealt with antibiotic, arsenic and surfactant supplements, and with hormones, including stilbestrol. Full information is given concerning requirements of various classes of stock for the vitamins, including B and the unidentified factors. The Appendix Tables are enlarged by 40%, with composition and digestible nutrients of 1,100 feeds..... **$9.50**

ANIMAL NUTRITION, 4th Edition (1956)

By Leonard A. Maynard

It covers the standard, constantly-needed facts on feeding farm animals and also the newly discovered facts about how certain acids, minerals, vitamins, etc., can help in raising healthier, more productive animals. 474 pages, 77 illustrations and tables **$8.00**

BEEF CATTLE, 5th Edition

By the late Roscoe R. Snapp and A. L. Neumann

Covers breeding, feeds, feeding, economic trends, equipment, etc. Includes a report of hundreds of feeding experiments. Has a special chapter on sterility by Dr. Harry Hardenbrooks, Jr., assistant professor of veterinary Medicine, University of Illinois. 641 pages **$8.50**

RAISING LIVESTOCK

By Walter H. Peters and G. P. Deyoe

This book provides the owner, manager or caretaker of farm or ranch with easily found, specific suggestions for solving problems confronted in producing, handling and managing livestock, including preparing for market, selecting, feeding, housing, breeding and marketing influences. It tells of the many jobs to be done and exactly how to do them. 519 pages, 240 illustrations..... **$6.00**

DAIRY CATTLE FEEDING and MANAGEMENT, 4th Edition

By H. O. Henderson and Paul M. Reaves

Based on the original work by Carl W. Larson and Fred S. Putney. Expanded 10%, the Fourth Edition adds new chapters on minerals and vitamins, and much recent material on hay-crop silage, grass land farming, dairy cattle health programs, and digestion in the rumen and milk secretion. Designed for use profitably by the student and the practicing dairyman. 614 pages..... **$6.50**

SWINE SCIENCE, 3rd Edition

By M. E. Ensminger, Ph.D., State College of Washington, Head Department of Animal Science

A complete yet easily understood reference for swine feeders, breeders and those in auxiliary services to them. Covers history and development of the industry, its distribution, adaptation and future; types and breeds, establishing the herd, meat type breeds, selection and judging, breeding, feeding, grains and high energy feeds, protein, vitamin and milling by-product feeds, pastures, buildings and equipment, health and disease prevention, marketing and slaughter, management and showing. 543 pages, 198 illustrations..... **$6.75**

SWINE FEEDING AND NUTRITION (1957)

By T. J. Cunha, Department of Animal Husbandry and Nutrition, University of Florida

A new text for feeders, teachers of animal husbandry and their classes, county agents, nutritionists and workers in veterinary pharmaceuticals. Dr. Cunha is head of the Department of Animal Husbandry, a member of the Nutrition Committee of the American Society of Animal Production and the Swine Nutrient Requirements Committee of the National Research Council. The book includes reports on the most recent scientific feeding studies on swine. 360 pages, 47 tables, 46 illustrations **$5.00**

SWINE PRODUCTION, 2nd Edition (1956)

By W. E. Carroll and J. L. Krider

A guide to organization, establishment, management, feeding and marketing operations in raising of hogs. 408 pages, 65 illustrations.... **$7.50**

THE HANDBOOK OF FEEDSTUFFS (1957)

By Rudolph Seiden and W. H. Pfander

An encyclopedic presentation of production, formulation and medication. Designed to increase feed efficiency, explaining thousands of terms. Valuable to ranches and farms in production of feeds from right crops, utilization of plant as pasture, silage, hay, etc., and as an officially recognized feed product (meal, bran, grit, cake, etc.). Explanations and practical advice on medicated feeds, mineral feedstuffs, trace elements, growth stimulants and chemicals of importance to stockmen and poultry growers. Useful to feed manufacturers, nutritionists, students of animal biology, etc. 600 pages, 175 illustrations, cloth binding **$9.00**

THE STOCKMAN'S HANDBOOK

By M. E. Ensminger, M.S., M.A., Ph.D.

Intended for stockmen, those who counsel with stockmen and for teachers in animal agriculture. Of particular interest to the feed trade is a section on breeding and feeding of livestock. Other chapters have to do with judging, management, marketing, etc. The 1959 edition is an extensive revision of the first edition, published in 1955. The 668-page book has 625 charts, tables and illustrations. A practical handbook **$8.75**

MANAGING FOR GREATER RETURNS in Country Elevator and Retail Farm Supply Businesses

By Richard Phillips, Iowa State University economist

Written as a basic reference book for elevator and farm store managers, this book includes valuable information on over-all planning and management. Some of the topics included are planning for maximum business efficiency, use of an effective accounting system, increasing employee productivity, improving customer relations, improving purchasing, management of credit and operation of custom services. 500 pages **$7.00**

SCIENTIFIC FEEDING OF CHICKENS

By Dr. H. W. Titus

A small but absolutely authentic and concise treatment of vital information for feeders and feed manufacturers. 43 formulas for diets and mashes, vitamin content of over 60 feedstuffs; what feedstuffs are best; deficiency diseases; also relationship between feed consumption and egg production. 397 pages, hard binding **$4.00**

MARKETING POULTRY PRODUCTS, 5th Edition (1960)

By Earl W. Benjamin, James M. Gwin, Fred L. Faber and William D. Termohlen

This revised fifth edition of a book with a 35-year history focuses new attention on the transformation in the organization and structure of the egg and poultry marketing system. Detailed information is contained on improved methods of processing, quality control, materials handling and distribution which have affected egg and poultry marketing in recent years..... **$7.75**

FEEDING POULTRY, 2nd Edition

By Gustave F. Heuser, Professor, New York State College of Agriculture, and the School of Nutrition

Meets the needs of poultry producers, feed dealers and poultry students for the latest authoritative information on how to raise the best poultry by employing modern feeding methods. It evaluates findings on the value of feeds, types of feed to be used and nutritive economy. Deals with feeding and management for various purposes, chicks, breeders and egg producers. 633 pages... **$7.95**

POULTRY NUTRITION, 4th Edition Revised and Enlarged

By W. Ray Ewing

1,500 pages, 133 illustrations of practical, factual information for feed manufacturers, feed dealers, hatcherymen, breeders. New chapter on antibiotics, new growth charts, feed formulas for rapid growth..... **$12.50**

POULTRY HUSBANDRY, 3rd Edition

By Morley A. Jull

526 pages, 254 illustrations, covers all aspects of the poultry business, from planning and building poultry plant to preparing poultry products for market. Breeding techniques, feeding procedures, disease control, incubation; it is an "encyclopedia" of poultry raising **$7.25**

POULTRY PRODUCTION

By Leslie E. Card, Ph.D.

Eighth Edition, 416 pages, 210 illustrations and four plates. Deals with broiler production, flock management and marketing, breeding and selection, nutrition, disease control, etc. **$7.00**

HATCHERY OPERATION AND MANAGEMENT

By Ernest F. Funk and M. Richard Irwin

New, 1955; a practical guide to hatchery operation for the experienced and inexperienced. Covers all phases of the business, including advertising, selling, office procedure, labor costs, equipment, chick selection, sexing, etc. 350 pages, well illustrated **$7.50**

SUCCESSFUL POULTRY MANAGEMENT, 2nd Edition

By Morley A. Jull

447 pages, 188 illustrations, based on practical experience, brings practical helps for choosing breeds, increasing broiler and egg production, building range shelters, estimating egg output, buying feed, candlings eggs, etc. **$6.95**

TURKEY MANAGEMENT, 6th Edition

By Stanley J. Marsden and J. Holmes Martin

A text on turkey raising and marketing by Stanley J. Marsden, Poultry Husbandman at the U.S. Research Center, Beltsville, Md., and J. Holmes Martin, Head of the Poultry Department, Purdue University. Covers breeding, rearing, feeding, preparation for the market, shows, diseases and their prevention and control. 1,000 pages, 124 illustrations **$7.00**

THE FEED MIXERS HANDBOOK, 2nd Edition

By Ross M. Sherwood

A text for feed mixers with special reference to the nutritional aspects of feed formulation. A practical handbook for practical men. 298 pages, cloth bound **$3.25**

ANIMAL SCIENCE

By M. E. Ensminger, Ph.D.

A book for everyone interested in livestock production. Over 1,100 pages and 400 illustrations of helpful information on all phases of the industry **$8.50**

THE MARKETING OF LIVESTOCK AND MEAT

By Stewart H. Fowler, Louisiana State University

A thorough and practical presentation of all phases of livestock marketing practices, from the selection of marketable stock to the merchandising of meat and its products **$7.00**

BEEF CATTLE SCIENCE

By M. E. Ensminger, Ph.D.

A new 822-page edition in which the author proves that beef cattle production is a science. This book is an enlarged version of Dr. Ensminger's former book, Beef Cattle Husbandry. This edition presents a comprehensive treatment of all aspects of beef cattle production **$6.75**

LAW FOR THE VETERINARIAN AND LIVESTOCK OWNER

By H. W. Hannah and Donald F. Storm

An authoritative guide to the laws affecting veterinarians and livestock owners which can not only save you money in lawsuits but help you in everyday operations to be legally right in what you do **$6.00**

VETERINARY DRUGS IN CURRENT USE

By Dr. Rudolph Seiden

Contains concise information on 600 veterinary drugs—their physical and chemical properties, therapeutic uses, side effects and dangers, antidotes, and doses for the various animal species. Also lists pharmacologic groups of drugs, trade names and synonyms of the drugs, all animal diseases for which the drugs are recommended, and many health terms. A total of over 1,800 alphabetical entries, fully cross-referenced **$2.50**

No. C. O. D.'s

Please Add 50¢ Per Book for Any Shipment Outside U.S. and Canada

ORDER FROM Reader Service Department, Feedstuffs, P.O. Box 67, Minneapolis 40, Minn.

New Egg Market

MEMPHIS, TENN.—The Poultry & Egg Assn. of west Tennessee, in a meeting at the Mid-South Produce Co. here, decided to establish a Memphis egg market, it was announced by Nate Goler, association president.

Mr. Goler, Consolidated Poultry & Egg Co., said the market will be beneficial to egg producers in the area as well as grocers, who may keep their fingers on the ups-and-downs on the local market.

PRICES

(Continued from page 1)

lb. And, according to reports, some southern growers were getting as little as 10½¢ lb. late in the calendar week. A year ago, southern growers were paid about 17¢.

In Delmarva, according to USDA, prices averaged approximately 1½¢ below the previous week. Most auction sales ranged at 12.6-12.9¢, compared with 18.1-18.5¢ for the similar period last year.

About six weeks ago, broiler prices hit bottom. The Georgia Poultry Exchange at Gainesville reported a low of 10.2¢ June 1. Prices advanced gradually in June to 13-14¢ in Georgia and 14½-15½¢ in Delmarva, then started rolling backward again.

Weakness entered the nation's egg markets, too, during the week ended July 19. Prices were reported unchanged to mostly 2½¢ doz. lower on large eggs and ½-1¢ lower on mediums at New York and Chicago. Egg price levels in the Southeast declined 3-5¢ on larger sizes. For smaller sizes the market was unchanged to 1¢ lower. West coast markets reported prices mostly unchanged.

RAIL RATES

(Continued from page 1)

be moved by rail, under the newly proposed rates, into Gainesville, Ga., the major broiler producing center of the South, 6-8¢ cheaper than the old routing by barge line over the Tennessee River.

Meanwhile, many in the industry are expecting opposition to the proposed rates. It is said that protests are sure to be lodged against this move by the rails to recapture tonnage that now goes up the Tennessee River to the extent of 70 million tons a year.

If the protests are filed and the rates are thrown into hearings, it may be months before the matter is crystalized. No announcements have been forthcoming, however, regarding any protests.

Also, do not be surprised if some of the poultry producing areas not benefited by the rate reductions enter protests, contending that southeastern growers will be at a distinct advantage because of lower feed costs. At the annual Georgia Feed Assn. meeting in the Bahamas this week, there was speculation on this point.

The fact that only extra large consumers will be able to benefit by the new rates was also talked of at the Georgia meeting. Southern's stipulation was that a minimum of five cars to a single destination must be booked with each car handling 90 tons. L&N made the same requirement.

"I don't suppose there are more than a half dozen buyers in Georgia who can handle orders that size at one time," said Luke Hearn, Atlanta broker.

He said inquiries had been made to ascertain if five buyers could book five cars and divide them up. This would be inconsistent to the new rate structure, the railroads advised.

Mr. Hearn and Roger Hampton of Ralston Purina Co., Gainesville, both expressed the opinion it would be best to reserve any decisions until it is seen whether the rates actually become effective.

Feed men, as well as grain sellers, are now attempting to guess what the rails will do in the future. They frankly are not discounting the possibilities of future hikes in rates if they find the newly proposed ones not sufficiently adequate to cover their costs.

Admittedly, they are impressed with the rails' announcements. But some of them see fairly extensive expenditures for facilities to unload cars. Before such expenditures are made they would like to have some assurance the rates will be on a permanent basis.

On the other hand, the railroads appear to be serious in their efforts to recapture the business.

"Now if we can just get the business back and hold it we'll be happy," a freight rate executive of Southern said.

Louisville & Nashville's announcement stated that since the line had no jumbo aluminum hopper cars, grain would be moved in box cars. Millmen feel that if the rates do become permanent the line probably would obtain some of the big hoppers, but until such time, handling box cars will require additional labor.

Barge Situation

The economics of barge shipping is such that barge lines are not likely to cut rates. The feeling is that they cannot because their rates are already as low as they can make them.

For example, from East St. Louis via the Tennessee River the rate is 6¢ bu. to Alabama points. Added to that, of course, is the cost of trucking to Georgia and other points. To Gainesville this would run in the neighborhood of 11¢.

Another question posed in the South this week was what would be the reaction of railroads in other parts of the country? Will they, too, fall in line and reduce rates?

An influx of midwestern grain into the South is foreseen, and this possibility is creating still another big question. How will it affect corn growers in southern Georgia? Will they be able to compete with midwestern corn to the areas served by the reduced rates? No railroads in those areas have announced any adjustments.

One man attending the Georgia feed group's meeting said it is entirely possible that south Georgia corn dealers may have to sell at under-the-market prices, or else on a delivered basis, to compete.

What's in the Outlook

The transportation picture is so cloudy this week that there is a most complex situation appearing on the horizon.

Looking into the crystal ball, mill men see this possibility: If all railroads jump into the act by announcing reductions, what will be the economic future of some mills? It might even be possible to abandon some small mills in areas where the rate would work adversely and set up expanded operations elsewhere.

"Until the picture clears up a bit I wouldn't invest a dime in a mill anywhere right now," a grain man said.

Meanwhile, operations are under way at Wheeler Dam to get grain moving in a steady flow again on the Tennessee River. A foundation is being built for a temporary elevator-conveyor which will lift grain from barges coming up to the dam and carry the grain over the dam to other barges. It was understood this work had been delayed by workmen running into solid rock.

Grain is now being unloaded at Sheffield, Ala., and trucked to barges above the dam or to destinations.

The rate situation was brought into focus on June 2 when a lock at the dam collapsed, halting movement of the barges through the dam. Thousands of tons of grain were jammed as a result. Prices jumped 9-12¢ bu. at a time when the broiler industry in the South was in the throes of the worst price situation in history.

Southern Railway shortly thereafter announced its rate reductions from points of St. Louis, East St. Louis, Evansville, Ind., Louisville, Cincinnati and Memphis. Since L&N serves many points in the same area, it followed suit.

The Continental Conveyor & Equipment Co. of Winfield, Ala., has received the job of engineering, fabricating and erecting auxiliary grain handling equipment in connection with facilities being installed at Wheeler Dam.

PROPOSAL

(Continued from page 6)

nual conventions of the state associations and would in no way conflict with the various state groups.

"One of the problems in the South is in obtaining top caliber speakers for each of the state nutrition conferences," Dr. Ingram said. "By combining the strength of at least five states, these top-notch 'names' could be obtained.

"The South needs a top-flight conference. We should remember that we are located in the center of the poultry business."

All of the state universities would be invited to participate.

The proposed list of states is tentative, he said. It has been the reasoning that many of the poultry people in North Carolina and Kentucky attend the Virginia meeting, which was why they concentrated in the deep South. However, he indicated that if North Carolina wished to participate it, too, would be considered.

Louisiana people usually go to Arkansas or the Southwest, he said.

"Our thinking is that the South should have a strong conference and in order to make it possible we must have the cooperation of every association and every group," he said.

Dr. Ingram, who is with the Golden Rod Feed Co., Cullman, Ala., and formerly was connected with Auburn University, was allotted special time on the Georgia program to present the proposal.

Next Year Set as Goal

"The point I'm making is that in each state there are only so many people interested in attending conferences for what they can learn. By combining I think we can make a conference as strong as any in the land, including Cornell and Maryland," he said.

The goal being set is for the first conference to be held sometime next year, he said.

TOP OF THE HOPPER

(Continued from page 2)

significantly. The total needs each year for the hog-beef feeder thus are calculated at more than $20,000.

Further arithmetic reveals that the hog-beef feeder requires over $3,000 a year in financing to handle current needs plus replacement of capital assets at the required average rate.

Dr. Baker points out that this indication of financing needs does not mean that these farms are going bankrupt. It is possible to postpone, temporarily, the replacement of capital assets. Also, since farms have been growing, estimates of capital replacement requirements include additions as well as replacements.

"The evidence regarding finance of nonreal-estate assets is extremely fragmentary," he notes. "We know the farmers' opportunities to finance assets differ among assets. In 1936, for example, 62% of loans made by merchants and dealers were made for machinery and equipment. As feed purchases assume greater importance in the farmer's cash budget, will he turn increasingly to dealer-financing schemes here, too?

"Broiler producers have furnished a dramatic example in the past decade. Many analogies have been drawn, far too glibly, to predict the future for hog producers and perhaps for cattle feeders as well. Yet, this is a prospect that bears watching by both the farmer and the commercial lender."

HE FURTHER POINTS OUT that when a farmer uses his own income or financing by a commercial lender, he decides what sort of operations he will have. However, "as soon as the machinery dealer, feed dealer or packing company offers a package comprised of merchandise and a financing arrangement, the operator's decision is immediately conditioned by the terms of the financing scheme."

Dr. Baker concludes that despite all possible adjustments in commercial lending to farmers, there will be considerably more integration between farm and nonfarm interests. "The trends in financing requirements certainly suggest both the possibility and the means to accomplish it," he says. "Such a change would alter still further the character of agriculture and especially the role played by the commercial lender.

"Commercial lenders are directly concerned with the prospect that resources used in agriculture would be financed increasingly within a corporate structure and with corporate techniques. Insofar as the corporate structures would originate outside agriculture, actual ownership would be even more remote from the decisions regarding the use of resources than is the case with existing corporations.

"Will our society be better served? We do not know. We would probably attract more capital into agriculture, controlled in larger and larger blocks, reduce the quantity and change the quality of labor, and shift the site of decisions that shape the kind of agriculture we would have."

PROSPECTS FOR WORKING out some solutions to the Food and Drug Administration's position on arsenicals before early next year aren't too promising, according to industry sources close to the problem. One manufacturer of these products expects to have new safety tests required by FDA completed in early 1962, and others are also reported to be making similar progress. Possibilities of getting legislative changes are dim right now, it is reported, and some industry representatives were not too encouraged by what they felt was a cold reception from FDA officials on a recent visit to Washington.

SOME NORTHWEST FEED MEN are getting concerned about prospective supplies of screenings, both Canadian and domestic, as a result of the drouth. Small grain crops not only are smaller but also are reported to be "cleaner," and a reduction in screenings supplies, which normally are required for certain types of dairy feed, is anticipated.

The FEED MARKET

PRICE QUOTATIONS, MARKET TRENDS
OF PRINCIPAL INGREDIENTS

ALFALFA MEAL

St. Louis: Demand good; trend firm; supply adequate; dehydrated, 17% protein, 100,000 units vitamin A, pellets, $41.50, up $1.

Los Angeles: Demand for dehydrated steady, suncured moderate; trend steady; supply for dehydrated adequate, suncured ample; dehydrated meal 17% protein, 100,000 A $50@51; dehydrated pellet meal 17% protein, 100,000 A $52@54; suncured meal 15% protein $42@43; suncured crumbles 15% protein $44@45; all unchanged.

Boston: Demand good; supply fair; trend firm; dehydrated 17%, sacked $55@57, up $2@4; suncured 13%, $45, nominal, unchanged.

Kansas City: Demand good; supply adequate; trend steady to stronger; 17% dehydrated alfalfa, 100,000 A, pellets $39@40; reground pellets $40@41; 18% dehydrated alfalfa, 125,000 A, pellets $42@43; reground pellets $43@44; 20% dehydrated alfalfa, 150,000 A, pellets $46@48; reground pellets $48@49; prices unchanged to higher.

Cincinnati: Demand fair; supply adequate; trend little stronger; 17% dehydrated, 100,000 vitamin A $48@48.50, up 50¢@$1.

Memphis: Demand fair; trend steady to higher; supply ample; dehydrated, 17% protein, guaranteed 100,000 units vitamin A, $44.50; reground pellets, $44.60; both unchanged.

Ft. Worth: Demand fair for dehydrated, slow for suncured; supply sufficient; sacked: Dehydrated 17%, 100,000 A, $47@48, truck or rail; suncured, 13% ⅛ in. grind, No. 1, $42 truck; both unchanged.

Buffalo: Demand fair; supply adequate; trend higher; $56.10, sacked, Boston, up $2.

Portland: Demand fair; trend steady, suncured; lower for dehydrated; supply adequate; 15% suncured, $41 sacked; 20% dehydrated pellet meal, $49 sacked.

Chicago: Demand good; supply light; trend $1 up; dehydrated, 17% protein, 100,000 units vitamin A $45.

Seattle: Demand fair; trend easy; supply ample; suncured 15% protein $38, Seattle, unchanged (new crop); dehydrated 150,000 A units $67, Seattle, unchanged (new crop).

Denver: Demand fair; trend steady; supply ample; $42, unchanged.

Minneapolis: Prices continue steady; 17% dehydrated, 100,000 units vitamin A reground pellets $44; oiled reground $45.

ANIMAL FATS (STABILIZED)

Chicago: Demand fair; supply ample; trend steady; bleachable fancy tallow, $6.25 cwt., tank truck or carlot; yellow grease, $5.50.

Memphis: Demand fair; trend steady; supply adequate; yellow grease, 6¢; prime tallow, 6¢; both down ¼¢.

Los Angeles: Demand good; supply ample; trend steady; 6¼¢ lb., unchanged.

Boston: Demand spotty; trend unsettled; supply adequate; tallow 6⅛¢ lb., down ⅛¢; yellow grease 5⅛¢, off ⅛¢.

St. Louis: Demand good; supply ample; trend firm; yellow grease 5⅜¢ lb., delivered, tank cars or trucks, down ⅛¢ lb.

Ft. Worth: Demand fair; trend steady; supply moderate; prime tallow, tank cars 6¢, drums 7⅛¢, f.o.b. north Texas packing plants with returnable drums, down ⅛¢.

Atlanta: Demand fair; trend weaker; supply good; 6¢ lb., f.o.b. Alabama and Georgia production points.

St. Paul: Bleachable fancy down ⅛¢ lb. to 6¢ lb., f.o.b. producer's plant.

BARLEY FEED

Chicago: Demand fair; trend higher; supply light; $37.50 sacked.

Baltimore: Demand better; trend higher; supply light; $47.50 sacked.

Los Angeles: Demand steady; supply tighter; trend firmer; $2.57½ cwt., up 2½¢.

Boston: Demand, trend and supply steady; $45, unchanged.

Seattle: Demand good; supply limited; trend firm; $46 truck lots, up $1.

Denver: Demand fair; supply scarce; trend steady; $2.45 sacked, $2 bulk, unchanged.

BLOOD MEAL

Chicago: Demand fair supply moderate; trend steady; 80% protein, $130 sacked.

Los Angeles: Demand fair; trend steady; supply light; $5.50 unit of ammonia sacked, unchanged.

BONE MEAL (STEAMED)

Boston: Demand, trend and supply steady; $105, unchanged.

Cincinnati: Demand good; trend steady; supply fair; $100 sacked, Cincinnati, unchanged.

Buffalo: Demand and trend steady; supply fair; $105 sacked, f.o.b. Buffalo, unchanged.

Chicago: Demand fair; supply adequate; trend firm; $95 sacked.

Los Angeles: Demand good; trend steady; supply ample; imported $80, 20 ton lots sacked, unchanged.

Ft. Worth: Demand good; supply scarce; trend steady; sacked: Domestic $100, f.o.b. Ft. Worth, unchanged.

Seattle: Demand fair; trend steady; supply good; $92, f.o.b. car Seattle, sacked, unchanged.

Denver: Demand light; trend steady; supply ample; $103, Denver, unchanged.

BREWERS DRIED GRAINS

Boston: Demand active; supply fair; trend firm; 26%, $46.60@47, up $1.60@2.

Cincinnati: Demand fair; trend steady; supply adequate; $46.50, unchanged.

St. Louis: Demand good; supply limited; trend firm; 26% protein, $37.50, up $2.

Buffalo: Demand fair to good; supply fair; trend higher; $46, Boston, up 50¢.

NOTE: Quotations on feed ingredients shown in these and adjoining columns are wholesale prices, per ton, bulk, for prompt delivery, unless otherwise noted. They are the latest quotations available from Feedstuffs correspondents and are not necessarily those in effect on date of publication. The prices represent fair average trading values and do not necessarily represent extreme low or high levels at which individual sales might have occurred. A descriptive summary of supply and demand factors prevalent in the feed market appears on page 2.

Chicago: Demand improved; supply moderate; trend $1@1.50 up; 26% protein, $34.50@35.

Los Angeles: Demand good; trend steady; supply adequate; $50, unchanged.

Ft. Worth: Demand slow; trend steady; supply sufficient; 26% protein, $52.50 sacked, unchanged.

BREWERS DRIED YEAST

Boston: Demand, trend and supply steady; 11¢ lb., unchanged.

Cincinnati: 9@10¢ lb., sacked, unchanged.

St. Louis: Demand fair; trend firm; supply ample; 9½@10¢ lb., carlots, sacked; 10⅓¢ lb., ton lots; 11½¢ lb., less than ton lots.

Chicago: Demand fair; trend steady; supply ample; 9½@10¢ lb., carlots, sacked; 9¾@12½¢ lb., l.c.l.

Milwaukee: Demand fair; trend steady; supply ample; 10⅓@12½¢ lb., ton lots, sacked.

Buffalo: Demand pretty good; trend a little firmer; supply adequate; $8.85 cwt., up 10¢.

Los Angeles: Demand good; supply limited; trend steady; 10¢ lb., 5 ton lots; 11¢ lb., 1 ton lots; 12¢ lb., less than ton lots; all sacked, all unchanged.

Ft. Worth: Demand practically nil; trend steady; supply sufficient; 11½¢ lb. ton lots, sacked, unchanged.

Seattle: Demand slow; trend steady; supply ample; $12 cwt., sacked.

CALCIUM CARBONATE

Cincinnati: Demand fair; trend steady; supply adequate; $7@7.50 cwt., unchanged.

Chicago: Demand fair; trend steady; supply ample; fine grind, plain, 100 lb. bags $9.84; bulk, in hopper cars $7.54; bulk in boxcars $8.04; granular grind $1 premium.

Minneapolis: Fine grind, 50 lb. bags $13.75; 100 lb. bags $13; bulk, boxcar $11.50; bulk, hopper $11; coarse grind $1 premium, delivered Minneapolis.

Los Angeles: Demand fair; trend steady; supply adequate; flour $9.85, 20 ton cars; meal $10.20, 20 ton cars; both sacked; both unchanged.

Ft. Worth: Demand normal; trend steady; supply sufficient; $4.50@5, f.o.b. north Texas, unchanged.

Denver: Demand slow; trend steady; supply ample; $12.50 ton carload, local; $14.50 ton carload out of state.

Seattle: Demand and trend steady; supply good; $14 ex-warehouse, sacked.

COCONUT OIL MEAL

Portland: Demand slow; trend and supply adequate; $63.20.

Los Angeles: Demand moderate; trend steady; supply adequate; copra cake $65, unchanged.

Seattle: Demand fair; trend steady; supply limited; solvent-type, $69, f.o.b. car, Seattle, sacked, unchanged.

CONDENSED FISH SOLUBLES

Los Angeles: Demand good; trend steady; supply limited; 3¼@3½¢ lb., unchanged.

Boston: Demand and supply steady; trend firm; $45, unchanged.

Denver: Demand fair; trend steady; supply ample; 4¢ lb., West Coast, up ½¢.

CORN GLUTEN FEED AND MEAL

(All quotations for all cities are bulk basis, sacked basis $6 more)

Minneapolis: Feed $39.70, meal $78.70.
Atlanta: Feed $43.10, meal $82.10.
Birmingham: Feed $40.90, meal $79.90.
Boston: Feed $44.60, meal $83.60.
Chicago: Feed $33, meal $72.
Cleveland: Feed $41, meal $80.
Denver: Feed $43.30, meal $82.30.
Ft. Worth: Feed $43.80, meal $80.80.
Indianapolis: Feed $38.25, meal $77.25.
Kansas City: Feed $33 meal $72.
Louisville: Feed $39.55, meal $78.55.
New York: Feed $44.20, meal $83.20.
New Orleans: Feed $43, meal $82.
Norfolk: Feed $43.60, meal $82.60.
Philadelphia: Feed $43.80, meal $82.80.
St. Louis: Feed $33, meal $72.

CORN OIL MEAL

Cincinnati: Demand fair; trend steady; supply adequate; $49, unchanged.

Seattle: Demand good; trend firm; supply ample; $56, up $1.

COTTONSEED OIL MEAL

St. Louis: Demand fair; supply limited; trend firm; 41% solvent process $63, Memphis basis, unchanged.

Los Angeles: Demand slow; trend easier; supply adequate; $58@60, unchanged to $2 lower.

Chicago: Demand good; trend $1 higher; supply light; Memphis basis, hydraulic $65.

Buffalo: Demand poor; trend steady to higher; supply fair; $54.40 sacked, Boston, up 50¢.

Portland: Demand slow; supply adequate; trend unchanged; 41% solvent, $70.20.

Kansas City: Demand fair; trend stronger; supply adequate; 41% solvent process, $62.80; 41% old process, $63.50@64, up $1.

Memphis: Demand fair; trend steady; supply ample; prime 41% protein, old process, $63, up $1; new process, 41% protein, $62, unchanged.

Cincinnati: Demand poor; supply very limited; trend lower; $68, down $2.

Ft. Worth: Demand slow; trend steady; supply sufficient on meal, scarce on hulls; 41% old process, $56.50@57, f.o.b. mills Ft. Worth, about unchanged; solvent, $57.60 July-August, up $1.30; pellets, $2 additional; hulls, $19, unchanged.

Denver: Demand fair; trend steady; supply ample; $60.50 ton, unchanged.

Atlanta: Demand fair; supply limited; trend steady; 41%, $68.60 delivered (Texas meal).

Seattle: Demand poor; trend easy; supply ample; 41% expeller, $69, f.o.b. car, Seattle, unchanged.

CURACAO PHOSPHATE

New York: Minimum 14% phosphorus $43.50 sacked, $40.50 bulk, f.o.b. New Orleans, Jacksonville and Philadelphia.

DEFLUORINATED PHOSPHATE

Coronet, Fla.: Minimum phosphorus 18%, minimum calcium 31%, maximum calcium 34%, maximum fluorine .18%; guaranteed uniform analysis; carload $61.25, sacked, 100 lb. multiwall bags, bulk $58.25; truck load $62, sacked, in 100 lb. multiwall bags, bulk $59, f.o.b. Coronet, Fla.

Tupelo, Miss.: Minimum phosphorus 14%, minimum calcium 28%, maximum fluorine .14% $52, f.o.b. Tupelo in 100 lb. multiwall bags, $49 bulk.

Wales, Tenn.: Minimum phosphorus 18%, minimum calcium 33%, maximum 36%, maximum fluorine .18% $66 (or $3.67 per unit of P), f.o.b. Wales in 100 lb. multiwall bags, $3 less in bulk.

Butte, Mont.: Minimum phosphorus 18%, minimum calcium 32%, maximum calcium 36%, maximum fluorine .18% $81 (or $4.50 per unit of P), f.o.b. Butte, 100 lb. multiwall bags; bulk $78; truck lots of less than 10 tons $10 more, bagged or bulk.

Houston: Minimum phosphorus 18%, minimum calcium 32%, maximum calcium 35%, maximum fluorine .19% $69.35 net ton, f.o.b. Houston, 100 lb. multiwall bags; $66.35 bulk ($3.65 per unit of P).

Cincinnati: 18% phosphorus, carlots $74.30, ton lots $84.30; 14% phosphorus, carlots $62.50, ton lots $72.50, f.o.b. Cincinnati, unchanged.

Ft. Worth: Demand fair; trend steady; supply sufficient; minimum 18¼% phosphorus, maximum 31% calcium, maximum .19% fluorine $76.65, sacked, unchanged.

DICALCIUM PHOSPHATE

Trenton, Mich.: 18¼% P $83, bulk, boxcar/hopper car; $86, bagged, in less than carload lots; 21% P, $94.05, bulk, boxcar/hopper car; $97.65, bagged, in carloads or truck loads; $107.65, bagged, less than carload; all prices f.o.b. Trenton, freight equalized with nearest producing point.

Chicago: Bulk, carlots and truck loads, 18¼% phosphate $78 and 21% phosphate $99; packed in 100 lb. papers, 10 tons or more, 18¼% phosphate $81 and 21% $92; lesser quantities, 18¼% phosphate $91 and 21% $102; above prices per ton, f.o.b. Chicago Heights, Ill., or Nashville, Tenn.

Bonnie, Fla.: Minimum phosphorus 18½%, granular, $81 (or $4.38 unit of P), freight equalized from nearest producing point, carload basis; bulk carloads $3 less; in truck loads of less than 10 tons, $20 more. Western slope prices, for delivery at established railroad stations and by truck at regular feed mixing plants: California, Arizona, Nevada and Utah, $99.90; Washington, Oregon, Montana and Idaho, $107.15; bulk carloads $3 less; truck loads less than 10 tons, $10 more.

Columbia, Tenn.: Minimum phosphorus 18.5%, minimum calcium 24% $81, f.o.b. Columbia, in 100 lb. multiwall bags; freight equalized with nearest producing point, carload basis; bulk $3 ton less.

Texas City, Texas: Minimum phosphorus 18.5%, minimum calcium 20%, maximum calcium 23%, maximum fluorine .12%; carload and truck load $75.50, sacked, in 100 lb. multiwall bags, bulk $72.50, f.o.b. Texas City.

Buffalo: Demand fair to good; trend steady; supply adequate; $82.93, sacked, f.o.b. Buffalo, unchanged.

Los Angeles: Demand slow; trend steady; supply adequate; 18½% phosphorus $95.10, sacked, unchanged.

Cincinnati: 18¼% phosphorus $88.80, bagged in carloads; $95.70 in ton lots, f.o.b. Cincinnati; $81, f.o.b. production points, unchanged.

Ft. Worth: Demand fair; trend steady; supply adequate; $81.50, sacked, unchanged.

Denver: Demand fair; trend steady; supply ample; $86.50, carload.

Seattle: Demand good; trend steady; supply limited; $91, ex-dock, Seattle, sacked, unchanged.

DISTILLERS DRIED GRAINS

Buffalo: Demand and supply fair to good; trend lower; $61, August offering, Boston, off $7.

Boston: Demand fair; supply adequate; trend easier; domestic, July, $66, off $1; August, $62; Canadian, $65, prompt shipment.

Cincinnati: Demand fair; trend steady; supply adequate; $63@65, unchanged.

Louisville: Demand fair; trend steady; supply reasonable; bourbon grains, dark, sacked and packed, f.o.b. Louisville, $54@55; light grains, $1@2 ton less; solubles $73.

Seattle: Demand good; trend firm; none available; $71 delivered truck lots, sacked, unchanged.

DRIED BEET PULP

Los Angeles: Demand moderate; supply adequate; trend steady; $47.10, unchanged.

Buffalo: Demand fair; trend steady; supply fair to poor; $70 sacked, Boston, unchanged.

Portland: Demand slow; supply adequate; trend unchanged; $47.58.

Boston: Demand fair; supply adequate; trend steady; $64.50 sacked, off 25¢.

Denver: Demand light; trend steady; supply scarce; $58, down $2.

Seattle: Demand fair; trend steady; supply ample; $48 delivered carlots, sacked, unchanged.

DRIED BUTTERMILK

Buffalo: Demand fair; supply adequate; trend steady; $10.60 cwt., unchanged.

Chicago: Demand slow; trend firm; supply fair; medium acid, $9.75@10.25 cwt.; sweet cream, $9.75@10.25, both sacked.

Los Angeles: Demand fair; supply light; trend steady; 13¾@14¢ lb. sacked, unchanged.

Boston: Demand and supply steady; trend firm; 14¢ lb., unchanged.

DRIED CITRUS PULP

Buffalo: Demand fair to poor; supply adequate; trend steady; $37.50, f.o.b. Florida points, unchanged.

Los Angeles: Demand and trend steady; supply limited; orange pulp $43, lemon pulp $41, both unchanged.

Boston: Demand and trend steady; supply light; $37.50, f.o.b. Florida, unchanged.

Atlanta: Demand fair; trend steady; supply good; pulp $35@37.50, south Florida processing plants; meal $32.50 sacked, Florida processing plants.

DRIED SKIM MILK

Boston: Demand active; supply tight; trend firm; 13½¢ lb., unchanged.

Cincinnati: Demand fair; trend steady; supply adequate; 12@13¢ lb., sacked, unchanged.

Buffalo: Demand good; supply adequate; trend steady; spray $11.50 cwt., unchanged.

Chicago: Demand slow; trend easier; supply ample; $11@11.75 cwt., sacked.

Los Angeles: Demand slow; trend steady; supply adequate; 14¢ lb., less than ton lots; 13¾¢ lb., ton lots, both sacked, both unchanged.

Ft. Worth: Demand slow; trend steady; supply moderate; $15.65 cwt., sacked, unchanged.

Minneapolis: Demand good; supplies scarce; price strong at $12 cwt.

DRIED WHEY

Kansas City: Demand slow; trend steady; supply ample; $4.75 cwt. sacked, unchanged.

Boston: Demand, trend and supply steady; 5¼¢ lb., unchanged.

Cincinnati: Demand fair; trend steady; supply adequate; $5.75 cwt., sacked, unchanged.

Chicago: Demand quiet; trend steady; supply ample; $4.75@5 cwt., sacked.

Los Angeles: Demand fair; trend steady; supply adequate; $5.10 cwt. carloads sacked, down 9¢; $5.35 cwt. l.c.l. sacked, unchanged.

Ft. Worth: Demand slow; trend steady; supply adequate; standard $4.75 sacked, truck or rail, delivered Ft. Worth; small lots $5.25, f.o.b. warehouse Ft. Worth, unchanged.

Minneapolis: Price remains unchanged at $4.75, f.o.b. shipping points.

Denver: Demand slow; trend steady; supply ample; $5.90 cwt., down 5¢.

Seattle: Demand steady; trend easy; supply good; $5.85 cwt., ex-warehouse l.c.l., unchanged.

FEATHER MEAL (HYDROLYZED)

Los Angeles: Supply nominal; $1 a unit of protein, sacked, unchanged.

Memphis: Demand fair; supply adequate; trend steady; 85% meal, $95, up $2.50.

Boston: Demand active; trend strong; supply tight; $98.50, up $8.50.

Ft. Worth: Demand fair; trend steady; supply scarce; 85% protein, $94@97.50 sacked, delivered Ft. Worth, up $5.

Atlanta: Demand good; trend steady; supply light; $87.50, f.o.b. Alabama and Georgia production points.

FISH MEAL

Los Angeles: Demand and trend steady; supply light; local production 60% protein, $1.87½ unit, unchanged.

Buffalo: Demand good; trend higher; supply ample; 60% protein Menhaden, $125, f.o.b. Buffalo, up $5.

Portland: Demand slow; trend unchanged; supply tight; $2 protein unit sacked.

Chicago: Demand fair; supply moderate; trend steady; menhaden, East Coast $115@116; Gulf $116@118; scrap, East Coast $111@114 and Gulf $111@114.

Boston: Demand good; trend firmer; supply light; 57% $112, up $2; 60% $117, up $2.

Cincinnati: Demand fair; trend steady; supply adequate; $113.90, delivered, up $5.80.

Ft. Worth: Demand good; trend steady; supply sufficient; smoked: 65% protein, Peruvian $124 July-August, unchanged; new crop Menhaden $127.50, July-August, unchanged.

Denver: Demand fair; trend steady; supply short; $1.92 protein unit, West Coast, up 7¢.

Minneapolis: Supplies continue tight with good demand; Canadian herring steady at $1.85 unit, f.o.b. West Coast, subject to production; 60% West Coast blended steady at $142.

Atlanta: Demand good; trend steady; supply light; 60% menhaden, $115@116 sacked, f.o.b. Atlantic and Gulf ports.

Seattle: Demand good; trend steady; supply fair; $1.85 unit protein ex-dock, Seattle, sacked (Alaskan production), unchanged.

HOMINY FEED

Buffalo: Demand fair to good; supply fair; trend steady to higher; $48.50, Boston, up $1.50.

Chicago: Demand fair; trend $1 higher; supply light; $39.

St. Louis: Demand good; trend firm;

(Turn to QUOTES, page 96)

Major Markets Roundup

Soybean Oil Meal Price Stages Comeback

While soybean oil meal was weak during the early part of the trading week, as indicated by figures from the U.S. Department of Agriculture (see table), prices advanced $1.15 July 19 and a further advance was marked up July 20.

For the entire list of feedstuffs, the index for the week ended July 18 was 0.3 higher, according to USDA.

Meat and bone meal and tankage both showed sharp advances in price. Ft. Worth reported that there were sharp price hikes in poultry by-products and feather meal. One supplier was said to have boosted his price of feather meal $10 a ton.

Part of the advances chalked up previously by linseed oil meal due to drouth reports from the Northwest were lost during the trading period.

East

BOSTON: Millfeed price changes in the local market were generally on the upside last week reflecting a spotty and diversified demand situation. The outstanding gain was on feather meal, up $8.50, revealing an active demand from exporters.

Brewers grains and alfalfa meal were also in good steady demand, responding with sizable advances.

Soybean meal was easier with inquiry generally limited to immediate and piecemeal requirements. Fish meal also indicated a steady upward trend. Poultry feeds were on the slow side reflecting a weak broiler market and steady liquidation of fowl.

BUFFALO: Strength in millfeeds featured an irregularly higher ingredient market. Bran advanced $3, middlings jumped $4.50, and red dog gained $3.50.

Opinions differed on the cause for the rise. One spokesman attributed the turn-around to indications that Canada may be reluctant to issue export licenses for millfeeds because of crop conditions. Such a move would cause New England users to turn elsewhere for their needs, especially to Buffalo. Another spokesman said the firm shipping positions resulted from the strike at a flour mill in Springfield, Ill. Medium and large mixers in Buffalo entered the market in force July 18. The move was called purely stockpiling because business was neither up nor down from the hand-to-mouth buying in recent weeks. Some ingredients followed, as they in turn, were affected by drouth conditions. The Commodity Credit Corp. is continuing to offer corn and prices eased 2¢. Oats, however, edged up ½¢. Animal tallow backed down after its recent rise to 6 to 6¼¢ lb. Soybean oil meal lost $1.50 and linseed oil meal gave up $1, the latter as rain partially alleviated crop conditions.

Midwest

CINCINNATI: Sharp price upswings were a feature of the ingredient market this week, due principally to increasing supply shortages for a number of items. This was coupled with an improving demand for feed for turkey poults and hogs, in line with increased production by area farmers.

Moving up substantially were fish meal, $5.80; bran $2, and middlings $5, to regain losses noted last week. Tankage was up $6.50 to a $100 level, if any was available and it wasn't locally.

The limited supply of cottonseed oil meal reversed a trend by being down $2.

CHICAGO: Demand for cash soybean meal eased off to some degree during the week and this in turn has been reflected in some lowering in prices, not only for 44% but for the 50% protein content, and for unrestricted and Eastern Trunk Line billing. However, it was the meal carrying unrestricted billing that showed a little more relative easiness than the other.

Within the next week, the Census Bureau will be out with its monthly compilation showing the size of the crush during June as well as meal production and the size of the stocks of meal remaining in processor hands as of the end of last month. There will be considerable interest in the extent to which inroads have been made on the latter, if any.

In the matter of futures trading in bean meal, there was some letdown in the volume of trade by comparison with recent weeks but it was still holding up fairly well at a total of 4,500 lots of 100 tons each for a daily average of 90,000 tons, which is a far cry from a famine situation.

On a pricewise basis, the July delivery lost about half a dollar per ton during the week, and the August selloff was about the same as for July. On the other hand, October meal gained about 75¢ per ton for the week. The remaining open commitment in the maturing July meal contract (with only two more sessions for pit activity in it) was down to 159 lots . . . a cut of 122 lots during the week.

ST. LOUIS: Feed ingredient prices maintained a firm to strong tone last week. Trading was fairly active, but again buyers entered the market only as need dictated and covered for limited periods.

Further advances were registered in alfalfa meals with trading picking up from the recent slow pace. Upward price move was helped by producers diverting a good portion of current production into storage.

Brewers grains maintained firmness and closed with an advance of $1. Market action reflected lighter supplies and better demand. Brewers reported lighter production because cooler summer has slowed demand for their product.

Animal protein feeds were in excellent demand but supplies were short. Handlers reported offerings of the unground material almost impossible to uncover in all Central states markets. Prices were up $4.50 for the week.

MINNEAPOLIS-ST. PAUL: Most of the activity in the local ingredient market this week consisted of fluctuations in the prices of protein items.

Prices on soybean oil meal advanced $1.50 to $2.50, with 44% quoted at $62 and 50% at $67.50. Linseed oil meal backed down $1.50 to $2.50. The 34% solvent was quoted at $56 to $56.50 and 32% expeller was $63.

In the animal proteins, meat and bone meal rose $2 to $2.50 and was quoted at $108 to $110. Tankage rose $3 to $98 to $100.

Animal fat lost another ¼¢, but firmed at 6¢ lb.

Advances of 50¢ to $1 were noted in the millfeed market here. Oat product prices ranged from 50¢ higher to $2 lower.

South

ATLANTA: Too much moisture is hurting the cotton crop through insect infestation and too much grass. Last week exporters came into the market and bought all cottonseed meal which was offered for July and August and some bids were made on first half of September shipments, resulting in a price advance of $2 per ton.

Most major feed ingredient buyers continue to buy their proteins on an as-needed basis.

Movement of citrus pulp remains on the slow side and processors do not look for this to improve until next month when dairymen will begin pushing their herds to establish their milk base.

MEMPHIS: The demand was fair for ingredients on the Memphis market, with a mixture of ups and downs among the prices, compared with a week earlier.

Raw materials from which meat scraps are produced were in short demand and there was a wide discrepancy between buyers' and sellers' ideas. This was due to the finished product, 50% meat and bone meal, not bringing the usual profit margin. However, there were enough offerings to care for requirements in this territory.

The price trend for alfalfa meal appears steady for July.

The supply of cottonseed oil meal is practically exhausted in Memphis.

Soybean oil meal price basis was up from a week previous. Firmness in cash meal in the Decatur, Ill., market, coupled with limited southern production, gave some strength to soybean oil meal. Some interest was shown in deferred shipments. It was doubtful that much business was done; however, buyers are keeping posted closely on new crop positions.

Oilseed meal futures were mostly higher on the Memphis Board of Trade July 18, compared with one week before.

Unrestricted soybean oil meal ended 25¢ a ton higher to $1.50 lower. Bulk solvent cottonseed oil meal was again unchanged. Only one contract in unrestricted soybean oil meal for October gained.

The declines were attributed to losses in soybean futures and slow cash demand.

Trading volume for the week amounted to 2,000 tons of unrestricted soybean oil meal.

Southwest

KANSAS CITY: Ingredients were mostly higher this week with all major ingredients participating in the increase in varying degrees.

Proteins were generally stronger with meat scraps and tankage both $2.50@5 higher. Cottonseed meal was unchanged to about $1 up as the remaining old crop offerings began to get cleared up and rains delayed further the new crop. Soybean meal was up and down but finished the week about unchanged.

Alfalfa meal was unchanged to $1 higher with a firm undertone. Production is still running behind last year in the Kansas and Nebraska producing areas.

Millfeeds continued the firmer pattern of last week and prices advanced about $2. Flour mill production is still heavy in this area but millfeeds were in better demand with feeds from this area finding outlets into the Central States and eastern markets.

FT. WORTH: Poultry by-products and feather meal led the advance in high protein feed ingredients with an increase of $3 to $5 per ton, mostly due to light offerings. One supplier reported increasing his price of feather meal $10 per ton.

Oat products were up $2 and linseed oil meal was up $1.50 and in slow demand. Millfeeds were unchanged to $1.50 higher but demand had lessened with the increase in prices.

With the good pasture conditions over the state, cottonseed oil meal was in slow demand. Changes in quotations on soybean meal were minor and some bookings were being made as it was predicted that offerings would be lighter in August.

Animal fat was ¼¢ lower, but other ingredients were unchanged from the previous week, and dealers were reporting a poor demand.

West

SEATTLE: In the grain markets, corn continued to show strength because of the drouth conditions in the Northwest.

Feeds: Average Bulk Prices and Index of Weighted Prices*
(Dollars per ton)

	July 18, 1961	July 11, 1961	Change from previous week
OILSEED MEALS			
Prices at prin. mkts.			
Soybean meal	73.60	73.90	— .30
Cottonseed meal	64.55	64.10	+ .45
Linseed meal	63.70	66.10	—2.40
Copra cake or meal	58.50	58.50	...
Peanut meal	61.00	63.00	—2.00
Index	91.5	91.9	—0.4
ANIMAL PROTEIN FEEDS			
Prices at prin. mkts.			
Meat meal	96.90	95.10	+1.80
Tankage	94.00	92.10	+1.90
Fish meal	110.75	110.75	...
Index	85.6	84.5	+1.1
GRAIN HIGH-PROTEIN FEEDS			
Prices at prin. mkts.			
Gluten feed and meal	46.15	46.15	...
Dist. dried grains	63.70	64.20	— .50
Brewers dried grains	40.10	40.35	— .25
Index	76.0	76.1	—0.1
WHEAT MILLFEEDS			
Prices at prin. mkts.			
Bran	35.65	34.65	+1.00
Midds. and shorts	39.95	39.10	+ .85
Index	68.3	66.6	+1.7
OTHER MILLFEEDS			
Prices at prin. mkts.			
Hominy feed	40.85	40.70	+ .15
Rice bran	31.00	30.50	+ .50
Index	63.3	62.9	+0.4
ALFALFA MEAL			
Prices at prin. mkts.	46.15	45.85	+ .30
Index	88.8	88.3	+0.5
MOLASSES, FEEDING			
Prices at prin. mkts.	28.19	28.19	...
Index	83.9	83.9	...
ALL FEEDSTUFFS			
Index	83.3	83.0	+0.3
FEED GRAINS			
Prices at prin. mkts.			
Corn	40.20	40.50	— .30
Oats	47.40	47.10	+ .30
Barley	42.10	41.20	+ .90
Grain sorghums	43.60	42.70	+ .90
Index	65.9	66.1	—0.2

*Base period of index is 1947-49.
Source: USDA.

Barley firmed about $1 per ton to $46 as most farmers are storing their grain due to an increase of the support price of about $4.50 per ton. Oats continue to weaken with new crop fast approaching, as oats at $52 are several dollars per ton over the new support price. Millrun was off 50¢ to $37 bulk. The flour grind has picked up considerably while the demand is still poor.

In the concentrate market, soybean oil meal fluctuated in a range of about $2 per ton but closed virtually unchanged at $87.60. Cottonseed meal was unchanged at $69 for the 41% expeller type, but the demand was poor. Forty-four percent solvent type was in a little better demand but showed no strength at $78.

PORTLAND: Feed ingredient prices followed an irregular trend this week in the face of continued slow trading, which saw the demand limited mostly to nearby offerings.

Offerings of most feed supplies appeared fully adequate and were being supplemented in most cases by the seasonal abundance of home-grown grains and forage crops.

Trade sources here reported that drouth conditions in some nearby localities and in areas to the eastward were reflected in tighter offerings of some local ingredients. Whole corn prices made sharp gains while there was a moderate firmness in barley and milo prices. Oats eased off slightly as new crop harvest neared.

Linseed meal listings gained $2 a

RUFIS
(Natural Live Dried Rumen Bacteria)
Results speak for themselves. That is why thousands of tons of Dairy and Beef Cattle Feeds containing RUFIS are sold by leading feed manufacturers each year.
POUL-AN LABORATORIES, Inc.
621 West 33rd St. Jefferson 1-1597
Kansas City, Missouri

ton while other oilseed meal values were unchanged in front of quiet dealings.

Animal protein feeds also closed unchanged and trading in these was considered dull. Wheat millfeed quotations closed 50¢ a ton lower while quotes for dehydrated alfalfa meal declined $1 a ton. However, prices for suncured alfalfa meal ruled unchanged and about steady.

Other Reports

DEHYDRATED ALFALFA: Production of dehydrated alfalfa Jan. 1-June 30 this year amounted to 291,399 tons, with 189,943 tons of this total accounted for in June, the American Dehydrators Assn. reports. The season total thus far is down 4,237 tons from a year earlier, while the latest June figure shows a gain of 27,103 tons over the same month a year ago.

The June 30 inventory of dehy, at 214,946 tons, was up 7.8% from the same date a year ago.

MOLASSES: Production of citrus molasses this season through June 15 is about 10% above output a year earlier, the U.S. Department of Agriculture reports. But movement of the commodity this season is about 16% less than for the same period last year. Thus, says USDA, stocks on hand as of June 15, 1961, were substantially higher than June 15, 1960. Even so, prices have held steady recently.

QUOTES

(Continued from page 94)

supply adequate; yellow $39, up $1.

Los Angeles: Demand good; trend steady; supply limited; hominy meal $52; hominy pellets $54, both unchanged.

Kansas City: Demand good; trend strong; supply adequate; yellow $36.50@37, up $1.50.

Boston: Demand good; trend firm; supply spotty; $47.50, up $1.50.

Cincinnati: Demand fair; trend steady; supply short; $40.50, up 50¢.

Seattle: Demand fair; supply limited; trend firm; $55 delivered carlots, sacked, up $1.

LINSEED OIL MEAL

Seattle: Demand fair; trend steady; none available; 34% protein (Montana), $85 delivered carloads, sacked, unchanged.

Chicago: Demand good; trend irregular; supply fair; Minneapolis basis, solvent, $57; expeller, $63.

Denver: Demand fair; trend strong; supply scarce; $71, unchanged.

Minneapolis: Demand fair; supply adequate; 34% solvent off $2@2.50 to $56@56.50; 32% expeller off $1.50 to $63.

Buffalo: Demand fair; trend steady to lower; supply adequate; $56, Minneapolis, off $1.

Portland: Demand slow; trend higher; supply tight; 34% solvent, $87 sacked.

Los Angeles: Demand light; trend steady; supply adequate; local production 31% protein $71, unchanged.

Cincinnati: Demand poor; trend steady; supply fair; new process $58, down 50¢; old process $54.50, up $1, Minneapolis.

Boston: Demand and supply light; trend steady; 32% $76.20, unchanged.

Ft. Worth: Demand slow; trend steady; supply sufficient; 34% protein, extracted $72.20 July, up $1.50.

MEAT AND BONE MEAL

Seattle: Demand good; trend steady; supply fair; $1.85 unit protein ex-processing plant, sacked, unchanged.

St. Paul: Demand good; supplies tight; price advanced $2@2.50 to $108@110.

Denver: Demand good; trend steady; supply scarce; $94, unchanged.

Cincinnati: Demand excellent; supply very short; trend strong; 50% meat and bone scraps $97.50, Cincinnati, up $4.

St. Louis: Demand good; trend higher; supply limited; 50% $97.50, up $4.50.

Buffalo: Demand good; trend firm; supply tight; 50% meat scraps $100, f.o.b. Buffalo, up $2.50.

Portland: Demand slow; trend steady; supply adequate; 50%, $85 sacked.

Chicago: Demand fair; trend firm; supply moderate; 50% protein, sacked, $100.

Los Angeles: Demand good; trend steady; supply moderate; local production 31% protein $1.80, unchanged.

Boston: Demand good; trend firm; supply fair; $1.60 per protein unit, up 10¢; converted 50% $94.50, up $5.

Memphis: Demand fair; trend slightly lower; supply barely adequate; 50% protein $96.50, without billing, down $1.50; 50% protein, $100, with rail transit, down $1.

Kansas City: Demand fair; trend strong; supply adequate; 50% $100, up $2.50.

Ft. Worth: Demand excellent; supply very scarce; trend steady; meat and bone $97.50 bulk, $100 sacked, f.o.b. Ft. Worth, unchanged.

MEXICAN PHOSPHATE

Brownsville, Texas: Mexican natural ground rock, 13% phosphorus $39, sacked, bulk $2 less.

MILLFEED

Minneapolis: Demand fair; supply adequate; sacked middlings up 50¢@$1 to $37.50; sacked bran up 50¢@$1 to $36.50; sacked red dog steady at $43.

Kansas City: Demand good; supply adequate; trend stronger; sacked bran $36@36.50, up $1; sacked shorts $39@39.50, up 50¢; bulk bran $27.50@28, up 50¢; bulk shorts $32@32.50, up $2; bulk middlings $28@29.50, up $1.50.

Ft. Worth: Demand fair; trend firm; supply moderate; bran bulk $37, burlaps $43@43.50; gray shorts bulk $41.50, burlaps $47; bulk middlings $39.50, delivered Texas common points; bulk bran unchanged, sacked bran up $1@1.50; bulk shorts up $1.50, sacked shorts unchanged; midds. up $1.50.

Chicago: Demand improved; trend steady to $1.50 up; supply moderate; standard bran $33, standard midds. $36.50, red dog $40.

St. Louis: Demand fair; trend steady; supply ample; sacked bran $41.50, up $2; sacked shorts $44.50, up $1.50; bulk bran $32.50; bulk middlings $33.50, up $1.50.

Cincinnati: Demand fair; trend higher; supply adequate; bran $34.50, up $2; middlings $41.50, up $5.

Boston: Demand improved; supply adequate; trend firmer; bran $39.60, up $2.60; middlings $45.10, up $3.10.

Buffalo: Demand fair to good; supply fair; trend higher; bran $32.50, up $3; middlings $40, up $4.50; red dog $43, up $3.50; all prices f.o.b. Buffalo.

Memphis: Demand fair; trend steady; supply ample; wheat bran $36.30, up $1.50; gray shorts $40.30, up $2.50; standard midds. $36.30, up 50¢.

Seattle: Demand fair; trend easy; supply good; $38 delivered common transit points, carlots, down 50¢.

Portland: Demand slow; trend lower; supply adequate; $37@38.

Denver: Demand strong; trend steady; supply ample; shorts $42, bran $38.75, millrun $40.50.

Los Angeles: Standard millrun $45.50@46, unchanged to 50¢ lower; demand limited; trend easier; supply increased; red bran $46@46.50, up $1; demand moderate; trend firmer; supply tighter.

MOLASSES

Cincinnati: Demand fair; trend steady; supply adequate; 14½¢ gal., New Orleans, unchanged.

Buffalo: Demand fair to good; supply adequate; trend steady; 16½¢ gal., f.o.b. Albany, unchanged.

St. Louis: Demand fair; trend steady; supply ample; blackstrap 14½¢ gal., tank cars, New Orleans, unchanged.

Atlanta: Demand fair; trend steady; supply limited; citrus $21, f.o.b. Florida processing plants.

Seattle: Demand fair; trend firm; supply good; $27.75, f.o.b. Seattle tank truck lots, up $1.

Denver: Demand fair; trend steady; supply ample; $33.70 tank car, unchanged.

Minneapolis: Price continues firm; $35 for blackstrap, tanks cars, delivered; $31 for beet and $23 for blend.

Los Angeles: Demand good; trend steady; supply ample; $25.50, f.o.b. tank cars; $25.75, f.o.b. tank trucks; both unchanged.

Boston: Demand and supply steady; trend firm; 16½¢ per gallon in tank cars, unchanged.

Memphis: Demand fair; trend steady; supply ample; blackstrap 14½¢ gal., tank car, f.o.b. New Orleans, unchanged; $30.50 ton, delivered Memphis, truck, unchanged.

Kansas City: Demand fair; trend steady; supply adequate; blackstrap 14½¢ gal., New Orleans, unchanged.

Ft. Worth: Demand fair; trend steady; supply sufficient; blackstrap 14½¢ gal., f.o.b. Houston; truck $31.49, delivered Ft. Worth, seller's market price on date of shipment, unchanged.

OAT PRODUCTS

Minneapolis: Prices ranged from 50¢ higher to $2 lower in the oat product market this week; sacked feeding rolled was off $2 to $87; sacked feeding oatmeal was steady at $68; sacked pulverized was up 50¢ to $45.50; sacked crimped was off $1 to $63.50; sacked oat feed was steady at $20.

Kansas City: Demand good; trend steady; supply adequate; oat mill byproduct $15.50@16 sacked, unchanged; feeding rolled oats $76@77 sacked, unchanged.

Cincinnati: Demand poor; trend steady; supply adequate; pulverized white oats $44@51, unchanged.

Buffalo: Demand and supply fair; trend steady to higher; $28.10 sacked, Boston, up 60¢.

Chicago: Demand fair; trend irregular; supply adequate; reground oatfeed $10.50; No. 1 fine ground feeding oatmeal $61; feeding rolled oats $71.50.

Seattle: Demand and supply fair; trend easy; $52 delivered truck lots 38 lb. or better, down $2.

St. Louis: Demand fair; trend firm; supple ample; white pulverized $43, unchanged; reground oat feed $13, up 50¢.

Boston: Demand slow; trend steady; supply ample; white pulverized $53.50@54, unchanged; reground oat feed $23, unchanged.

Ft. Worth: Demand slow; trend steady; supply sufficient; 10% protein oat millfeed $42.30 sacked, up $2; reground $22.80, sacked, up $2.

PEANUT OIL MEAL

Atlanta: Demand fair; trend steady; supply limited; 45% solvent process $61, f.o.b. Alabama and Georgia producing mills; expeller $63, f.o.b.

Los Angeles: Demand fair; trend steady; supply ample; $79 sacked, unchanged.

POULTRY BY-PRODUCTS

Boston: Demand very good; trend firm; supply short; $100, nominal, unchanged.

Memphis: Demand fair; trend steady; supply adequate; 55% meal $102.50 sacked, without billing, up $2.50.

Atlanta: Demand good; trend steady; supply ample; meat meal $92.50, f.o.b. Alabama and Georgia production points.

Los Angeles: Demand good; trend steady; supply light; $1.60 unit of protein sacked, unchanged.

Ft. Worth: Demand good; trend strong; supply very scarce; $105 nominal, sacked, f.o.b. Texas plants, up $3@5.

RICE BY-PRODUCTS

Atlanta: Demand good; trend steady; supply short; bran $43@45 sacked, delivered.

Buffalo: Demand good; trend steady; supply tight; $52.60, unchanged.

Los Angeles: Demand good; trend steady; supply light; California production high fat content bran $53 sacked, unchanged.

Ft. Worth: Demand fair; trend steady; supply very scarce, most mills closed down for season; rice bran, nominal, $37, f.o.b. south Texas rice mills, sacked, unchanged; hulls $2, bulk, unchanged.

SCREENINGS

Buffalo: Demand fair; trend steady; supply fair to poor; ground, $34 sacked, New York, lake and rail, unchanged; unground, $27.50 bulk, New York, unchanged.

Chicago: Demand slow; trend firm; supply fair; ground grain $28.50, Canadian $22.

Los Angeles: Demand slow; trend steady; supply adequate; barley $35 sacked, unchanged.

Minneapolis: Demand is moderate; supplies continue tight; prices unchanged; unground Canadian $17; domestic lights $1@8; domestic mediums $10@18; domestic heavies $18@26; 15% flax screenings steady at $40.

Cincinnati: Demand fair; trend steady; supply adequate; unground grain screenings $18@19, unchanged.

SOFT PHOSPHATE
(Sacked, delivered)

Atlanta: $20.25.
Buffalo: $25.50.
Chicago: $24.96.
Cincinnati: $23.64.
Des Moines: $25.42.
Kansas City: $25.07.
Memphis: $22.25.
Minneapolis: $26.12.
Philadelphia: $24.51.
St. Louis: $24.22.

SOYBEAN OIL MEAL

Minneapolis: Demand good, supply adequate; 44% was up $2@2.50 to $62; 50% was up $1.50 to $67.50, Decatur.

Denver: Demand good; trend lower; supply ample $74, down $2.

Seattle: Demand fair; trend steady; supply ample; $87 delivered carlots, unchanged.

Atlanta: Demand fair; trend steady; supply good; 44% $73, delivered.

Buffalo: Demand fair; supply fair to good; trend lower; $59.50, Decatur, off $1.50.

Chicago: Demand fair; trend $1 to $2 easier; supply liberal; Decatur basis, 44% protein, unrestricted billing, $65 and ETL., $69; 50% protein, unrestricted billing, $70 and ETL., $65.

Portland: Demand slow; trend steady; supply adequate; 50% $93.60, 44% $86.60.

Cincinnati: Demand fair; trend steady; supply adequate; $61.50 Decatur, unchanged.

St. Louis: Demand good; trend firm; supply ample; 44% $65, Decatur, up 50¢.

Los Angeles: Demand slow; trend firmer; supply moderate; $86.60@87.10, unchanged to 50¢ higher.

Kansas City: Demand poor; trend steady; supply ample; 44% solvent process $63.50@64, Decatur, unchanged.

Boston: Demand cautious; supply ample; trend easy; 44% $59.50, f.o.b. Decatur, down $1; 50% $65.50, down $3.

Memphis: Demand fair; trend steady to higher; supply ample; prime 44% solvent $69, f.o.b. Memphis, up $1.50.

Ft. Worth: Demand improving; trend firm; supply sufficient for present; 44% $75.40@76.40 July, $76.40@77.40 August, about unchanged; 50% $82.40@83.40 July, about unchanged; $83.40@84.40 August, about unchanged.

TANKAGE

Cincinnati: Demand good; trend strong; none available; 60% digester $100, Cincinnati, up $6.50.

Kansas City: Demand fair; trend strong; supply adequate; 60% digester $95, up $2.50.

Chicago: Demand good; trend firm; supply moderate; 60% protein $100 sacked.

St. Paul: Demand good; supply tight; price steady to $3 higher; $98@100 sacked.

Ft. Worth: Demand fair; trend steady; supply short; 60% digester $102.50 sacked, Ft. Worth, unchanged.

UREA FEED COMPOUND

Woodstock, Tenn.: Minimum 42% nitrogen, 262% protein equivalent; $103 bagged, $99 bulk, delivered in all states east of and including New Mexico, Colorado, Wyoming and Montana.

LaPlatte, Neb., and South Point, Ohio: Minimum 42% nitrogen, 262% protein equivalent $95, f.o.b. bagged; $90 bulk, cars or trucks; freight equalized with nearest producing point.

Belle, W. Va.: Minimum 42% nitrogen, 262% protein equivalent $100, f.o.b. bagged; $96 bulk, cars or trucks, freight equalized with nearest producing point.

Pryor, Okla.: Minimum 42% nitrogen, 262% protein equivalent $95 bagged, $91 bulk, f.o.b. Pryor, freight equalized with nearest producing point; $100 bagged, $96 bulk, delivered in cars or trucks to New Mexico, Colorado, Wyoming, Montana and all states to the East.

VEGETABLE AND ANIMAL FAT (HYDROLYZED)

Los Angeles: Demand fair; trend steady; supply limited; 6½¢ lb., unchanged.

Ft. Worth: Demand good; trend steady; supply sufficient; 6¢ lb., f.o.b. north central Texas, unchanged.

MILLFEED • FEED GRAIN
FEED INGREDIENTS
What Do You Need?
—Jerry Parks
633 Board of Trade
KANSAS CITY, MISSOURI

MANEY BROS.
MILL & ELEV. CO.
Minneapolis, Minnesota
Distributors in the Upper Midwest States for
SMALL'S DEHYDRATED ALFALFA MEAL

SMALL'S
DEHYDRATED ALFALFA
"For Feeds with a Future"
Archer-Daniels-Midland Co.
Alfalfa Division
P. O. Box 356 • Kansas City, Mo.

BROILERS

(Continued from page 1)

dicted that there will be some further expansion of broiler operations in the area, following recent "phenomenal" growth.

Mr. Johnson mentioned that while the South has been moving toward more complete vertical integration, with ownership or control by one firm of most or all phases of operations, the industry in the Upper Midwest has been based mostly on cooperation among a hatchery, feed company and processor, with these three joining to enter into contracts with minimum price on production or guarantee with growers.

Mr. Johnson said: "If we apply the same mark-up over actual costs of producing broiler type chicks, of growing broilers, of manufacturing and delivering feed and costs of efficient processing as they do in other areas where they operate under vertical integration, then our finished cost will be no higher and it may be lower if we can maintain a favorable balance so far as disease and condemnation in plants are concerned.

"As a processor in possession of a great deal of production cost information from areas all over the U.S., I look to the future of this broiler industry in this area with a great deal of confidence.

"This does not mean that we can absorb a crash program in expanded production such as we have witnessed, not only in Minnesota but on a national basis. . . . To disregard sensible increases in production correlated to expansion of markets is to court a disastrous market price level such as we have been going through since early May. Leaders in our industry must begin to recognize that the economic factors are similar enough among various sections of our country to prevent a few producing areas from taking over and producing broilers for the entire country."

Comments on Costs

Commenting on costs, Mr. Johnson noted that building costs in the Upper Midwest have been higher than in warm climate states, but he said that growers in other areas may find it necessary to insulate houses better to help control disease and that their building costs eventually may be much closer to those in the North. The cost of heating is higher in the winter, but as an offset to these higher costs, he said, feed costs are lower by $6 to $8 per ton, and $8 per ton is equal to 1¢ per pound of broiler.

Disease and condemnation problems in the less congested North have been less, he continued, and there is a freight advantage of something over 1¢ to market.

"The higher cost on some phases of our operation is offset by advantages which make it possible for this area to compete on an equal basis. . . .

"When you compare costs, you get into some tricky problems. It depends on what is included, such as depreciation, interest on investment, taxes, insurance and in some cases cost of labor. If you look only at 'out-of-pocket' cost such as chicks, feed, litter, lights and fuel, we can produce broilers as efficiently and possibly at lower cost than producers in other areas."

(Mr. Johnson did not mention specific total costs. Some say total costs in the area may average 15¢ lb., running from 14 to 16¢. Others say total costs under recent programs may be somewhat higher. Also, some say that the feed cost advantage may not be so great as indicated, depending on the type of feed production and distribution system, and that the freight cost differential may not be so great.)

Marked Growth

Broiler production in the Upper Midwest, Mr. Johnson noted, is confined mostly to Minnesota and Wisconsin. By 1960, Minnesota output was up to 5 million head for the year,

he said, with the 1961 total expected to be 15 million birds. By the end of 1962, he sees an annual rate of more than 20 million birds. Wisconsin output was up to more than 20 million by 1960, and the total in 1962 may be 22 million, based on an increase running about 8% per year.

"The feed companies, hatcherymen and processors working together in some instances, have done a tremendous job of promotion," said Mr. Johnson. "They have been able to show potential growers the financial advantages of commercial broiler production. These promotions usually include price guarantees for a specified period of time."

In addition to providing the needed return for the grower, Mr. Johnson said, the programs were necessary to assure year-round, more efficient operations for hatcheries and processors, comparable to operations in the South.

"The battle is on between the North and South for markets for broiler production," Mr. Johnson observed. "We in the North operate on the premise that we will supply most of our own requirements. . . . Somebody is going to have to give up further expansion to bring supply and demand into better balance. The South is going to lose some of its production cost advantages through low labor rates by the increase in the minimum wage. We can see that wage rates in the North and South will be reasonably close."

For a fair chance of success in the broiler business, Mr. Johnson said, a grower devoting full time to broilers will have 35,000 to 50,000 birds per brood, with four broods a year. A hatchery will need a weekly output of 100,000 chicks as a minimum. Single line processing plants will have to handle 1,400 birds per hour, and double line plants will have to handle 2,800 per hour.

Program Described

Mr. Johnson described the type of program in the Upper Midwest as one of "horizontal integration," although it more likely might be called a type of vertical integration, with different firms in the vertical steps from growing to marketing cooperating in a jointly sponsored program.

He explained that the hatchery, feed company and processor cooperate and enter into contracts with growers, with a minimum price guarantee. The aim, he said, is to set a price that will permit good growers to recover cost of operation, including feed, chicks, medication, litter, lights and heating, plus about 2¢ per pound as grower's return. Investment in buildings and equipment is the grower's. After the broilers have been processed and marketed, a determination is made as to their value. If the value is greater than the guaranteed price, a final settlement is made to the grower. If the value is less than the payment to the grower as represented by the guarantee under the contract, the overpayment is absorbed equally among the hatchery, feed company and processor. Mr. Johnson said he feels this arrangement is "superior to vertical operations because you are more likely to have an expert in each of the operations and growers are on an incentive basis."

Marketing

Mr. Johnson said that the biggest responsibility under the program rests on the processor, who must develop a good marketing program so as to obtain a premium price for the grower. He said that a premium can be developed on northern birds because of closeness to market and service that can be rendered.

At present, he pointed out, the industry looks to markets only in its own area, including Wisconsin, Minnesota, Iowa, the Dakotas and Montana. To some extent, he said, the industry also expects to supply some Army requirements and to take part in some export operations.

He went on to say that "we must exercise some restraint in planning our production so as not to get into a surplus position during the fall months. To create a large surplus during this period could wreck the future of our young industry. We must plan production to fit average consumer needs and not what can be sold during peak consumer periods."

Speaking of the industry generally and not just in his own area, Mr. Johnson said that "we must let consumption catch up to production before we plan any further expansion."

He looks for further growth in his area, "provided proper restraint is exercised."

(While there has been expansion in the area, reports indicate a slowing of expansion or cutbacks recently, particularly in view of recent low prices.)

EGGS

(Continued from page 1)

said, worked hard at promoting refrigeration and oiling at the farm level, spent considerable effort in organizing plants into efficient units and was conscientious about making sure that its egg package was what it was represented to be—"and then, we didn't keep the public or the retailers informed about what we had done. Either that, or we let secondhand stories be told about the quality of our eggs. We did not personally represent our product to the retailer or consumer."

Urges Personal Interest

Prof. Eggleton suggested that it was time midwestern egg producers and processors were represented in the marketing of their products by a person or agency in which they have ownership or proprietary interest.

Prof. Eggleton cited the excellence of egg quality control in the Midwest, but noted that being production-oriented has been a shortcoming of the industry in the region.

Fair Representation Lost

Illustrating what he called inadequate representation of midwestern egg quality in wholesale markets, Prof. Eggleton told of a typical independent dealer working hard and long to get his quality programs going at the farm level and to get his plant into shape for efficient grading, and then turning the finished product over by a telephone call to "some terminal dealer, who has never been in the Midwest, let alone ever having visited the plant or the farms from which these eggs may come."

Such a transaction, he said, loses fair representation of quality and the opportunity to bargain with quality. Instead, the transaction amounts to bargaining for price only and passing a quality return, if any should be forthcoming, over to another party for a few cents "premium."

Approaching his audience personally, Prof. Eggleton said, "You may say, 'We are represented by an old, reliable firm.' But unless you have held some interest financially in the product you sell, you cannot get the kind of representation you need.

"Before you jump to the conclusion that I mean we should get rid of some more middlemen and bring the industry down on me because I advocate bigness, let me say that all the same functions need to be performed. It may take a big firm or it may take a number of big-thinking little firms."

Successful Systems

Prof. Eggleton described some of the successful systems of merchandising midwestern eggs.

"Take the three larger chain store owned assembly-processing and wholesaling-retailing operations," he related. "You all know these are closed systems. The retailer orders what he wishes from the wholesale plant manager through his district supervisor. The wholesaler in the system may also be assembling direct from the country or, in any case, he has direct contact with sub-assemblers.

"The eggs are represented at retail by the same management that purchased them off farms. When a complaint arises, there can be the usual buck-passing, but it must be answered by someone within the organization.

"I am not as well acquainted with egg merchandising on the West Coast, but I am told thaat much the same system exists. The distance mileagewise is much less, but growers are directly responsible to consumers through their own agencies in most cases.

"This kind of representation is the key to market control."

Service on Complaints

Prof. Eggleton said midwestern eggs are satisfying the demands of eastern retailers in the areas of volume, uniformity and immediate availability. "And now we must be able to combine service on complaints with the other key requirements," he urged.

"To do this:

"1. We must have the assembler, wholesaler and distributor under one management.

"2. Each part of the system, no matter how widely separated by distance or job description, must share in the total margin available from producer to consumer.

"3. All those in charge of managing the product must share the responsibility for consumer complaints.

"4. Each part must help in planning, especially in making the kind of plans which will more nearly relate consumer buying habits to production and processing practices."

So that his audience would not get the impression that nothing along the lines outlined in his talk was being done in the Midwest, Prof. Eggleton noted that individual small dealers in the Midwest are assembling, grading, packing and personally delivering eggs to stores or warehouses near Chicago and other large cities. And he reported that farm cooperatives in Wisconsin, Minnesota and Iowa are expanding their influence in this direction, with some having representatives in consuming centers. Also, buyers in Illinois, Ohio and Indiana are reaching west into the production centers of the Midwest to buy eggs which they represent personally in some eastern cities.

PILLSBURY

(Continued from page 1)

Sales reached a record high of $384,962,436, an increase of about $11 million over the preceding year.

President Paul S. Gerot said, "These results represent a year of top performance for our company, extending our accumulated growth pattern of the last five years. They reflect gains in each of the three principal areas of our business."

He credited the introduction of 16 new consumer products and over 20 institutional and industrial products to national markets as contributing substantially to the year's success. He also cited management's emphasis on controlling costs and expenses while at the same time increasing capital investments and advertising expenditures to counter strong competition.

Mr. Gerot pointed out that Pillsbury had invested approximately $11 million during the year in modernization and expansion of its domestic plant system. Expenditures for domestic plants and equipment totaled $28 million for the three years 1959 through 1961, compared to $11 million for the three years 1956 through 1958.

Pillsbury increased its production facilities and product line during the year through the Tidy House Products Co., which manufactures a line of household cleaning products, water conditioners and a non-caloric sweetener; a potato processing plant in Grand Forks, N.D., and opened a new flour mill in Los Angeles. Engineering work is progressing on a new refrigerated products plant in Denison, Texas.

The company further expanded its foreign operations through Etablissements Gringoire, S.A., a major French food firm which produces a number of specialty foods, long popular in France.

Other overseas moves during the year included obtaining a controlling interest in the modern Mocama flour mill in Venezuela. The company also has interests in plants and licensing arrangements in Guatemala and El Salvador.

In April the board of directors raised the common stock dividend rate from $1.40 a year to $1.50 a year, effective June 1. The preferred stock rate remains at $4 annually.

The board also voted quarterly dividend at 37.5¢ a share on common stock, payable Sept. 1, 1961, to stockholders of record Aug. 4, 1961. The board also approved dividends of $1 per share on preferred stock, payable Oct. 14, 1961, to stockholders of record Oct. 2, 1961.

Pillsbury has earned and paid regular common stock dividends for 137 consecutive quarters. The company had 2,147,465 common shares and 35,715 preferred shares outstanding at the end of the fiscal year.

POULTRYMEN

(Continued from page 8)

goals or quotas are established to enable me to meet my budget for the year. Out of this analysis and study comes my 'financial statement' for the past year and my operating budget or blueprint for the new year. All effort is then bent to achieve these quotas and I watch my progress daily and monthly."

Mr. Pardun said, "Through study . . . and through sheer necessity . . . I have found that accurate records systematically used are essential to an efficient and profitable operation. Monthly reports tell me how well I'm doing toward meeting the goals I have set for my operation.

"I allow for deviation from one factor in my budget or goal if it is compensated for in another. We watch two things very closely—feed intake and livability. I have the philosophy that a living, eating hen will lay eggs and make money.

"How are we doing . . . are we meeting our goals? We are still short of our goal of 260 eggs per hen year but have reached our goal of putting 100% of the chicks we buy into the laying house and 90% to the killing plant at 19 to 20 months of age.

"My labor income last year was $1.36 per hen from 245 eggs per hen at an average egg price of 31.7¢ per doz. My feed conversion averages around 4¼ lb. feed per doz. eggs."

The sponsor of the conference, Hess & Clark, a division of Richardson-Merrell, Inc., in 1960 launched its Full Performance Index program which called for poultrymen to set production goals and keep accurate records. In addition to the FPI program, Hess & Clark also has conducted the "Golden Goodness of Eggs" promotion campaign for two years throughout the nation. It received APHF's Meritorious Service Award for it in 1960.

Hatchery Burns

POCOMOKE CITY, MD. — The Small & Bull Hatchery with a capacity of a million chicks was destroyed by fire here recently. There was no official estimate of damages, but a figure of $300,000 was arrived at, based on known values of equipment, buildings and eggs.

More than 1 million hatching eggs valued at close to $100,000 were lost in the fire. Some 50,000 day-old chicks had been shipped earlier in the day.

Equipment destroyed included the firm's 16 incubators, valued at about $10,000 each.

Chicks Placed in Principal Broiler Areas

(000's omitted)

Week ending	Maine	Conn.	Penn.	Ind.	Ill.	Mo.	Del.	Md.
May 13	1,209	473	831	895	115	905	2,228	2,330
May 20	1,198	475	745	962	109	906	1,944	2,344
May 27	1,226	452	840	896	145	923	1,868	2,291
June 3	1,242	447	840	910	80	841	1,974	2,114
June 10	1,230	398	949	894	104	863	1,981	2,152
June 17	1,238	431	876	969	127	891	1,963	2,104
June 24	1,242	392	806	888	85	992	1,681	2,528
July 1	1,244	432	781	827	89	1,093	1,743	2,332
July 8	1,231	332	761	781	57	906	1,496	2,280
July 15	1,207	382	744	869	109	1,028	1,558	2,253

Week ending	Va.	W. Va.	N.C.	S.C.	Ga.	Fla.	Ala.	Miss.
May 13	1,271	638	4,239	525	8,723	309	4,614	3,149
May 20	1,121	592	4,068	552	8,564	267	4,528	3,068
May 27	1,143	469	4,096	477	8,312	247	4,480	3,153
June 3	1,110	533	3,979	462	8,307	244	4,518	3,132
June 10	1,097	518	4,046	466	8,307	266	4,482	3,002
June 17	1,155	577	4,075	406	8,072	269	4,445	3,008
June 24	1,141	473	4,011	426	8,180	264	4,414	3,005
July 1	1,112	474	3,955	441	7,592	261	4,236	2,922
July 8	1,036	524	3,866	449	7,882	224	4,393	2,813
July 15	1,080	484	3,831	468	7,765	256	4,264	2,896

Week ending	Ark.	La.	Texas	Wash.	Oregon	Calif.	Total 22 areas 1961	Total 22 areas 1960
May 13	5,321	579	3,205	384	286	1,503	43,732	39,124
May 20	5,331	626	2,999	381	310	1,479	42,569	39,498
May 27	5,274	614	3,097	387	347	1,489	42,226	39,901
June 3	5,377	602	2,949	367	280	1,435	41,743	39,525
June 10	5,205	648	2,977	386	250	1,441	41,662	39,137
June 17	5,179	607	2,829	329	301	1,422	41,273	38,515
June 24	5,320	553	2,754	417	277	1,324	41,173	38,404
July 1	5,060	571	2,843	376	264	1,436	40,444	37,368
July 8	5,121	539	2,606	330	207	1,224	39,258	36,473
July 15	5,117	557	2,682	272	231	1,238	39,291	36,077

GEORGIA

(Continued from page 1)

"Just as there are various prices for feed ingredients, based on quantity, delivery date and credit standing of the purchaser, so are the various prices for money. This price factor involves—among other things—the amount to be borrowed, the security to be given and, very important, the credit standing of the borrower. Consequently, there are, in fact, many different prices for this one commodity, depending on the particular pattern into which the variables fall," he said.

"It is essential that we have a thorough understanding of these variables and a realization that there are other money costs besides interest. This will help to build a stronger financial position."

Use Assets at Hand

One way, he said, to build a sound financial position is to make the most efficient use of assets already at hand.

"In other words, you must get the most from what you already have," Mr. Nusbaum said. "Oftentimes, a close scrutiny and a firm determination to do something will disclose the fact that there are funds tied up in inventory or accounts receivable that can be converted into cash. This may require a change in thinking as to just what is required for inventory, or a more efficient purchasing program. But when the chips are down, it is often found that a business can operate on less inventory than it is used to. This quickly frees a certain amount of cash. By the same token, an aggressive credit and collection program offers great rewards in bringing cash into the business immediately.

"One's approach to financing involves the use of all the techniques that have been developed to help in financial planning. One of these is the cash-flow projection. Dealers can sit down with an accountant and figure out what cash will be coming into the business from sales, collections and other sources, and what expenditures will be needed for raw materials, labor, insurance and other fixed expenses.

"Projected forward, month by month, this plan can show the manager when he will have his greatest need for cash and when he will have the most cash available.

"With this done, careful study and planning will bring efficient use of funds available, and then if borrowing is necessary, permit the borrowing of the smallest amount possible for the shortest period of time.

"A careful cash-flow projection is one of the most useful tools I know of to help achieve and maintain a strong financial position.

"There are different sources of long-term funds, and if a business is making the most of what it already has, and funds are still needed, a diligent search should be made to find the type of funds best fitting the requirements."

Types of Financing

Mr. Nusbaum explored some of the types of financing available and cited pros and cons of each, at the same time urging careful scrutiny of each.

One method of securing financial assistance is the sale of equity in the business. One of the values of this type of fund raising, he said, is that there is no fixed cost for the money.

"The person putting up the funds simply becomes one of the owners of the business and the amount of money he gets back—the return on his investment—will be determined by the profitability of the business. This return will be measured by dividends rather than by interest. The big disadvantage to this type of fund raising is that you give up control of your business in direct proportion to the percentage you sell," he said.

Examples of Equity Financing

Mr. Nusbaum touched on the widely publicized sale of stock by Arkansas Valley Industries, Inc., as an interesting equity financing arrangement.

"To my knowledge, this is the only case of a public offering of stock in an integrated operation that we have had so far," he said, pointing out that a group of related operations—breeder farms, hatcheries, broiler growers, feed mills and processing plants—had lumped their assets and then sold stock to the general public.

At least one or two feed companies are experimenting with the "dealer enterprise" system developed originally by General Motors for automobile dealers. Mr. Nusbaum predicted that this form of financing may become more common in the days ahead.

Under this plan for the automotive trade, the dealer puts up what available money he has and the manufacturer puts up the balance needed. The manufacturer controls all the voting stock and can tell the dealer how he must operate. The contract, he said, calls for a certain percentage of profits to go to each partner, and then a certain percentage of the dealer's share must be paid back to the manufacturer until the debt is entirely repaid.

Other Arrangements

A source of funds becoming even more common in the feed business, as well as others, is the tendency of suppliers furnishing large lines of credit to their customers, Mr. Nusbaum noted. This has the effect of putting additional capital into the business without change of ownership.

Discussing still another form of financing—leasing—Mr. Nusbaum related that there are companies that will build a feed mill or processing plant and lease it back.

"Here again, you get back to the cost-of-money concept, and you find in leasing that the rates are pretty high as compared with conventional loans, and the lease payments have to be made regardless of the ups and downs, and profits or losses of the business," he said.

Many equipment manufacturers will sell their products on a lease-purchase arrangement which allows the buyer to get latest equipment without having to put up cash money immediately, which has the advantage of conserving working capital, and in some cases, a tax savings.

"However, this money also has a price, dependent upon the amount involved and the length of time of the pay-back," he noted. "Here again the payments have to be made regardless of the ups or downs of the business involved."

Feed and poultry businesses are beginning to use factoring, a very old method of financing. The factor merely becomes a client's credit department. The client gets an order, etc., and once the factor approves the order he takes responsibility for collecting the amount due and guarantees there will be no credit loss to the client.

"The factor, therefore, actually finances the client's accounts receivable," Mr. Nusbaum explained. "This gives the client, for his use in his business, all the money he might otherwise have tied up in his accounts receivable.

"But like other forms of financing, there is a price cost for this money supplied by factors. There are two basic charges, one being a fee for services performed, such as credit checking, guarantees, collection work and so on. The other charge is the interest on the amount of money borrowed by the client."

Mergers

Mergers may possibly be considered a type of financing in that one of the many reasons for forming a new enterprise is to obtain additional capital, an outlet for merchandise or services, or for diversification.

A merger may be effected to accomplish more integration, Mr. Nusbaum said. Business examples of this include Sanderson Brothers, Inc., and Miss Goldy, Inc., broiler producers and processors, respectively, and Mountaire Poultry Co. in Arkansas.

Mountaire, he explained, is not a company in the usual sense of the word. Eight separate corporations function as a single unit in a combination of growing operations, hatcheries, feed mills, processors, truckers and a poultry by-products plant.

"All retain their separate entities but operate as one company under an over-all management committee," Mr. Nusbaum related. "In this way, they coordinate their hatching activities with their growing operations, and their processing operations and the feed mills with all of the feeding operations. The weakness, in my opinion, would be the difficulties inherent in trying to operate under a management committee, but if they can work this out they may very well be highly successful."

Traditional lending agencies, such as banks, the Small Business Administration and production credit associations, should not be overlooked as money sources, Mr. Nusbaum said.

Another source of funds becoming more prevalent in the industry is the capital loan from one segment of the industry to the other. Under this plan a loan may be from a feed manufacturer to one of his good customers and might be in the form of bulk equipment or a larger hatchery.

"The feed manufacturer knows his customer, he has faith in the man's ability to operate at a profit and he has the additional income on the sale of his product, in addition to the interest on the loan," Mr. Nusbaum explained. "Very often he will tie a management agreement in with the loan so that the feed manufacturer can be sure the latest management practices are followed. This control is part of the price tags on the money."

He advised the feed man seeking additional funds to scrutinize closely all the various price tags on money. "Certainly the present depressed markets make this question of financing a very real and immediate one for many of us. It overshadows all other problems of nutrition, management practices, pricing and the rest, because if we cannot solve the problem of financing, we won't be around to worry about the other problems. Long range plans and a workable plan for expansion in the industry are essential to an industry that is going to grow. The firms that do the best job of building a strong financial position will certainly have the best chance of remaining in business and capturing a larger and larger share of the market," he said.

HATCH

(Continued from page 6)

offset by increases in west north central, south Atlantic, east south central, west south central and Rocky Mountain states. The largest increase in incubations—39%—was reported for the Pacific states.

Total Chick Hatch

Since the volume of broiler-type chicks amounts to about six times that of egg-type output, the 6% gain in broiler chick hatchings matched the 23% drop in egg-type chick output.

Total hatchings of both types of chicks amounted to 229,896,000 in June of this year, less than a million more than the 228,956,000 hatched in June of 1960.

The cumulative month-to-month increase in total chick hatchings compared with a year earlier has run fairly constant since January. The range has been held to 10-16%. The cumulative gain at the end of June was 10%.

Contest Winner Sets Growth, Feed Records

WEST END, GRAND BAHAMA ISLAND — With a feed conversion of 1.96, the winning entry in the 1961 Chicken-of-Tomorrow Contest completed by the Poultry Science Club at the University of Georgia weighed 3.39 lb. at 8 weeks, setting a new contest record for growth and feed efficiency.

Details of the winner, a pen of Barker and McMillan X Cobbs, entered by Boyd Corn Hatchery of Gainesville, were revealed at the annual convention of the Georgia Feed Assn.

The average for all entries also set a new contest record with an 8-week weight of 3.28 lb. and a feed conversion of 2.13.

Other Winners

Second place was won by Cox Hatchery, Calhoun, Ga., using Ledbrest X Pilch.

Other winners were: Third, Cherokee Feed & Supply, Canton (Vantress X Thompson); fourth, Habersham Hatchery, Cornelia (Vantress X Cobb), and fifth, Ft. Mountain Hatchery, Ellijay (Vantress X Cobb).

The 1961 contest consisted of 17 pens of 400 chicks each (200 of each sex) representing 17 leading broiler hatcheries in north Georgia.

Chicks were hatched at the university by the club and grown to 8 weeks of age by club members at the Whitehall Farm. Rations were formulated by the poultry nutrition staff at the university and were essentially the same as the university's 1961 recommended broiler rations.

MARKETS

(Continued from page 2)

ing at $93.57. Broiler prices averaged out at 14.01¢. A pound of broiler meat would buy 3 lb. of feed, the same ratio as a week earlier.

Swine production continues to offer opportunities for Delmarva farmers. Dr. E. P. Young, swine nutritionist with the University of Maryland, says 3 to 1 conversion rate can make profits for local farmers and "they can compete successfully with growers anywhere in the country." A 4 to 1 ratio, he says, makes swine production in this area only a sideline.

Local hog prices are $1.50 cwt. more than at Chicago.

Central States

For the first time in recent months, demand for formula feeds was beginning to show at least some slight evidence of faltering a bit . . . not that there was any very decided decline but possibly more of a leveling-off process than anything else.

Demand all through May and June held up remarkably well and the first ten days of July also was fairly good. This could be what often takes place in mid-summer. Another thing, demand for broiler feeds, after showing only moderate response to the very weak market for broilers earlier in the summer, showed rather definite signs of softening this week, which in turn naturally helped to bring about some moderate curtailment in running time. Buyers are not anticipating requirements and are taking feed largely on a basis of week-to-week needs.

South Central

Formula feed business held up well this week, better than the trade expected. Several plant men indicated that they had started out the week with little or no backlog and were doubtful about filling out five days' run, but they wound up by making it. It was emphasized that demand is not very aggressive and operations are on a day-to-day basis.

Seasonal expansion in turkey feed outgo provided the extra push needed to hold running time at a normal level. Hog feed sales held steady as did demand for broiler feeds. With cool weather and good moisture keeping pastures green, summmer cattle and dairy feeds are of little help to mills.

Ingredient prices are firm and just slightly higher. Price lists have not changed much for several weeks, which mill men believe is a factor in stabilizing demand for formula feeds.

Mountain States

Feed men report that business is good, especially in the turkey feed line. Cattle feeding is down somewhat due to the depressed market on fed cattle and probably won't pick up until fall. Dairy cattle and swine feeding is about normal and steady.

Feed prices generally are down a little.

Ohio Valley

Ohio Valley farmers are now busily harvesting a wheat crop that, because of the late spring cold and wet weather, is expected to total some 5% less than the 1960 harvest.

The harvesting of other small grain crops, such as oats and barley, now underway, also is expected to produce crop totals well under those recorded last year. However, with ample carryover supplies available from last year, no problems of supply are anticipated.

According to a report by the U.S. Department of Agriculture Marketing Service, there has been an increase of 16% in turkey poult hatchings in Ohio this year, with heavy white birds most plentiful. This situation is being reflected in increased sales of turkey poult feeds, and manufacturers are hopeful that the present good volume of business will continue through the fattening and marketing periods for turkeys next fall.

Sales of other types of formula feeds are, of course, being adversely affected by harvesting activities. However, reports this week are not quite so gloomy as they have been.

Pacific Northwest

The recent hot, dry weather stimulated some interest in dairy feed offerings throughout Oregon, Washington and Idaho, but trade sources indicated that poultry and turkey feeds continue to set the pace despite the unfavorable feeding ratios they now carry.

After two successive weeks in which they advanced, regional egg prices held unchanged and fully steady at Portland. Willamette Valley producers were offered mostly 39 to 43½¢ a dozen for AA extra large eggs, with AA large ones selling at 37 to 41½¢.

Producer-paying prices for No. 1 grade frying chickens are now 1¢ lb. higher than the seasonal low, with dealers paying producers 15 to 20½¢ lb., f.o.b. Willamette Valley ranches.

Livestock prices at North Portland were unchanged for steers this week, but 50¢ to $1 lower for Willamette Valley spring lambs, while range lambs held unchanged to 25¢ lower under a $16 top. Top-grade lightweight butcher hogs sold unchanged to 25¢ higher under a $20-25 extreme.

Northern California

Severe forest fires in Tuolumne and Calaveras counties have brought disaster to the poultry farmers in that area.

In the valley, mills report that they are operating at normal to a little overtime to keep abreast of the business.

Turkey and laying chicken feed has apparently increased in production. The poultrymen feel that the birds have recovered from extreme heat conditions and are back on normal rations.

Dairy and cattle feed sales continue to improve in most areas as the extremely hot weather has deteriorated the grass.

Southern California

Feed sales and production both increased this week due to better feed consumption in the broiler and turkey areas.

However, market prices for hens and toms have remained unchanged from last week and most growers are already writing this crop off as "just one of those overproduction years." Some hope is still maintained that Uncle Sam will buy additional broilers and turkeys for the school lunch program in the fall. Unfortunately, some growers have needed to sell cold storage birds below production costs, too.

Discouraged broiler men in this area are trying to help their own cause by decreasing production and are not replacing nearly as many birds this time around. The depressing market conditions in Los Angeles due primarily to the cheap prices in the Southeast have convinced poultrymen that some initiative to decrease production must be taken now.

Egg prices are unchanged from last week, but many producers fear a sudden price decline soon if the government does not start buying more eggs. The normal warm weather production "blues" are being experienced again causing strong local market prices.

Cattlemen predict better fall beef prices and are hopeful feed conversion ratios will improve. A greater number of cattle are being fed this year in California than last year, but replacement plans are limited. Feedlot operators in the Imperial Valley have been discouraged because of the lack of business while feedlots in the San Joaquin Valley are realizing an increase in cattle numbers.

RESUMES OPERATIONS

HARRISON, ARK. — Frank Edwards Feed Store, large retail feed dealer serving a nine-county north Arkansas area, has resumed operation after a flash flood forced suspension of business. The store suffered heavy damage when a destructive flood hit this agricultural center early in May. The flood swept away tons of feed, one truck and other supplies owned by the firm. Damage was estimated at several thousand dollars.

INDEX OF ADVERTISERS

The index of advertisers is provided as a service to readers and advertisers. The publisher does not assume any liability for errors or omissions.

Abbott Laboratories
Aeroglide Corp. 18
Agri-Tech 25
Albumina Supply Co.
Amburgo Company 8
American Cyanamid Co. 30, 31
American Dehydrators Assn.
American Elev. & Grain Div.
American Scientific Lab. 38
Anderson Box
Anderson, V. D., Co. 28
Arbor Acres Farm 32, 74
Archer-Daniels-Midland Co., Alfalfa Division 96
Assn. of Mill & Elevator Mutuals
Aubrey Feeds 88

Baker Equipment Eng. Co. 19
Baker, H. J.
Barnard & Leas Mfg. Co., Inc. 38
Baroid Chemicals, Inc., Subsidiary of Natl. Lead Co.
Bartlett, C. O., & Snow
Baughman Mfg. Co., Inc.
Baxter, A. E., Engineering Co.
Beardstown Mills
Bemis Bro. Bag Co. 15
Berg, Paul
Blatchford Calf Meal Co.
Blomfield-Swanson
Borden Co.
Bowman Feed Prod. 74
Bradley-Barr & Co.
Brock Mfg., Inc. 88
Brooks Mach. & Mfg. Co.
Brower Manufacturing Co. 70
Brown's Ledbrest, Inc.
Bryant Engineering Co.
Burlap Council 79
Burrows Equipment Co. 91
Butler Mfg. Co. 81

C-K Processing Co. 53
Calcium Carbonate Co.
California Pellet Mill Co. 75
Cardinal Scale Mfg. Co.
Carey Salt
Cargill, Inc.
Champion Portable Mill Co.
Chase Bag Co. 32
Checkerboard Grain Co. 14
Chesapeake Manganese Prod. Co.
Chick-Master Incubator Co.
Ciba Pharmaceutical Co. 42
Cleveland Vibrator 23
Clinton Corn Processing Co. 18
Clofine, Herbert K. 75
Clupak, Inc. 28
Cobb's Pedigreed Chicks, Inc. 68
Colonial Poultry Farms
Columbia Phosphate Co. 72
Columbia Quarry Co.
Columbian Steel Tank
Commercial Solvents Corp. 9
Consolidated Blenders, Inc. 100
Consolidated Quarries Div., The Georgia Marble Co.
Consolidated Water Power & Paper Co.
Continental Grain
Corn Products Sales Co. 24
Custom Millers Supply Co. 60

Daffin Manufacturing Div. 53
Dannen Mills, Inc. 68
Darling & Co.
Davies, Wm., Co., Inc.
Davis Enterprises
Davis, H. C., Sons' Mfg. Co., Inc.
Dawe's Laboratories, Inc. 35
Day Company, The
Daycom, Inc. 42
Dayton Bag & Burlap 26
Deere, John, Chemical
Devold, Peder
Diamond Alkali Co. 80

Diamond V Mills, Inc.
Distillation Products Industries 71
Distillers Feed Research Council
Dodgen Industries
Dorn & Mitchell Laboratories 43
Doughboy Industries
Douglas Chemical Co. 22, 23
Dow Chemical Co. 12, 13
Duplex Mill & Mfg. Co. 55
Du Pont de Nemours & Co., Inc., E. I. 61

Eagle Nest Hatchery
Eastman Chemical Prod., Inc. 16
Ehrsam, J. B., & Sons Mfg. Co., The
Elanco Products Co. 33
Empire Sales Training Center
Erlez Mfg. 56
Eschenheimer, Rudy, Co.
Eshelman, John W.
Ewing, Ray, Co. 86

Ferret Labs.
Fitzpatrick, U. E., & Co.
Flavor Corp. of America
Food Mach. & Chem.
Forster Mfg. Co.
Fox Co. 54
Frontier Chemical
Fruen Milling Co. 29
Fuller Co.

General Mill Equipment Co.
Gilmore Tatge Mfg. Co.
Gland-O-Lac Co., The 25
Gorton-Pew Fisheries
Grace, W. R., & Co. 69
Grain Belt Supply Co.
Grain Processing Corp.
Gump, B. F., Co. 14

Hand, Peter, Foundation 3
Hardy Salt
Harshaw Chem.
Haugen, W. D., Co.
Hayes & Stolz Ind. Mfg. Co
Haynie Products, Inc.
Heil Co., The
Heisdorf & Nelson Farms, Inc. 34
Henderson Mfg.
Henke Mfg. Co.
Hess & Clark, Inc. 20, 21
Heterochemical Corp. 57
Highway Equip. Co.
Hilltop Lab.
Hoffmann-La Roche, Inc.
Hoffman-Taff, Inc. 14
Hogenson Const. Co.
Hogg, N. D., Ltd. 40
Holt Products
Honeggers' & Co. 44
Hooker Chemical 60
Hot Spot Detector
Howes, S., Co., Inc. 44, 45
Hubbard Milling Co.
Hubbell, Charles H.
Huss & Schlieper

Ibberson, T. E., Co.
Illinois Liquid Feed 70
Illinois Soy Products
International Dist. Corp.
International Minerals & Chemical Corp.
International Salt Co., Inc. 40
Iowa Limestone Co.

Jackson, Gilbert, Co., Inc.
Jacobson Machine Works 40
Jersee Co.

Kansas Soya Prod. Co., Inc. 56
Keen Mfg.
Kees & Company 67
Kem Mfg. Co.
Kent Feeds
Kent, Percy, Bag Co., Inc.
Keystone Steel & Wire
Kindstrom-Schmoll Co.
Knappen Milling Co.
Kraft Bag Corp. 72
Kraft Foods Co.

Laboratory Const. Co.
LaBudde Feed & Grain Co. 89
Lamkin Bros.
Landers Mach. Co.
Land O'Lakes Creameries, Inc.
Launhoff Grain Co. 19
Leach Mfg. Co.
Limestone Products Corp. of America 68
Loncala Phosphate Co.

McCabe Grain Co., Ltd.
McMillen Feed Mills
Madden Corp.
Magnus, Mabee & Reynard
Manley Bros. Mill & Elev. Co. 96
Mann, W. P., Sales Co.
Marine & Trust Co.
Mayo Shell Corp. 14
Melos Mfg.
Merck & Co., Inc. 17, 41, 65
Meyer, C. W.
Mid-Continent Grain Co. 64
Mid-States Construction
Midwest Bag Co.
Midwest Dried Milk Co.
Milbrew Co.
Miller, Mel, & Co., Inc.
Miller Publishing Co., The 84
Minneapolis Sewing Mach. 11
Monsanto Chemical 63
Moores Mfg. Co. 58
Morton Chemical Co.
Morton Salt Co. 66
Myers-Sherman Co.

Nagel, Herman, Co.
National Alfalfa Dehydrating & Mfg. Co.
National Distillers
National Molasses Co. 27
National Renderers Assn. 29
Nellis Feed Co.
New Century Co., The 80
New England By-Prod. Corp.
Nichols, Incorporated 52
Nootbaar, H. V., & Co.
Nopco Chemical Co. 76
North American Mfg. Co.
North American Trading & Import Co.
Nor-Vell, Inc.

Oakes Mfg.
Olavarria & Co.
Oliver Machine Works
Oyster Shell Corp. 44
Oyster Shell Prod. Co. 24

Pabst Brewing Co.
Paper, Calmenson & Co. 34
Parks, J. P., Inc. 96
Parrish & Heimbecker
Parrish, N. K.
Paxton Processing Co. 91
Pay Way Feed Mills, Inc.
Peavey, F. H., & Co.
Penick, S. B., & Co.
Peterson Breeding Farm 54
Pfizer, Chas., & Co., Inc. 50, 51
Pilch's Poultry 64
Pillsbury Co., The
Pittsburgh Plate Glass Co.
Piess, Joe N., Co. 67
Pope Testing Lab.
Poul-An Laboratories, Inc. 95
Poultry By-Products Assn.
Power Curve Conveyor
Prater Pulverizer Co. 91
Productive Acres Mfg. Co. 11
Products Blending Co.
Professional Feeds Div.
Publicker Industries, Inc. 49

Quaker Oats Co.

Ralston Purina Co. 39
Rapids Machinery Co. 67
Red River Alfalfa Co.
Reilly Tar & Chem. Corp.
Reliance Feed Co.
Renneburg, Edw., & Sons Co.
Richardson Scale Co.
Ripco, Inc.
Roskamp Huller Co.
Ross Equipment Co.
Ross Mach. & Mill Supply
Ryde & Co.

St. Regis Paper Co.
Salsbury's, Dr., Labs. 5, 36, 37, 73
Schenley Distillers, Inc.
Schutte Pulverizer Co., Inc. 27
Scott Paper
Seagram, Joseph E., & Sons, Inc.
Seedburo Equipment Co. 83
Shelby Mfg. 26
Shellbuilder Co. 52
Sievert, C. W.
Simonsen Mfg. Co. 25
Small, The W. J., Co. 96
Smith-Douglass Co., Inc. 46, 47
Sohio Chemical Co.
Soft Phosphate Co. 16
Southwest Mill Supply Co.
Spencer Kellogg & Sons, Inc. 58
Sprout, Waldron & Co., Inc. 87
Squibb, E. R. 59
Stabilized Vitamins
Standard Brands, Inc. 22, 53, 79
Sterwin Chemicals Inc. 43
Stivers, T. E., Co. 29
Sudenga Industries
Sunset Feed & Grain Co. 79
Superior Boiler Works
Superior Div. of Daffin Corp.
Superior Feed
Sutorbilt Corp.
Swanson, Carroll, Sales Co.
Sweet Mfg.

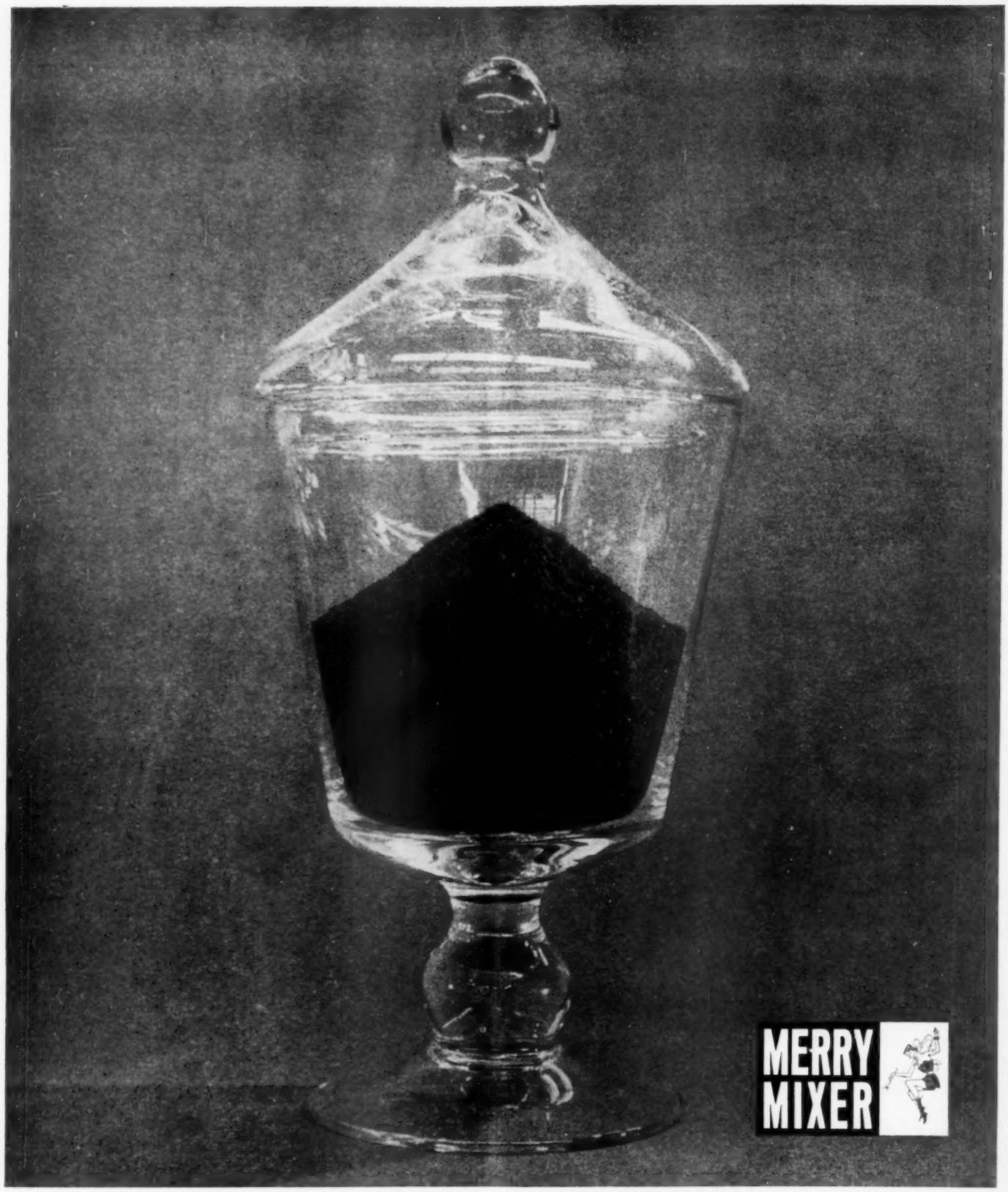
Taste Engineering Co. 7
Thomas Conveyor 63
Thompson-Hayward 45
Tobias Enterprises
Toledo Scale
Toxite Laboratories

Ultra-Life Laboratories, Inc. 11
Union Bag-Camp Paper Corp.
Union Special
United Bags, Inc.
Universal Hoist Co.
Upjohn Co.

Vy Lactos Laboratories, Inc.
Vantress, Chas., Farms, Inc. 77
Vineland Laboratories, Inc.
Vineland Poultry Lab.
Vitren Corp.
Vy Lactos Laboratories, Inc.

W-W Grinder Corporation 48
Warren Douglas
Wellens & Co.
Wells, Ralph, & Co.
Wenger Mixer Mfg. 85
Wertz Feed Products
Western Condensing Co. 89
Western Yeast Co.
West Virginia Pulp & Paper Co.
White Shell Corp.
Whitmoyer Laboratories, Inc. 48
Wilhoit Laboratory
Wilson & Co.
Wilson, R. S., Co.
Winborn's
Wirthmore Feeds
Wyatt Mfg.

Young, John



another little production difference that makes feed formulation easier

CAPTURED: 12 MONTHS OF SUMMER

Quality-control is the 'key word' at our plants. An advanced storage program enables us to provide *you* with 'fresh cut quality' — twelve months of the year. From processing to delivery you get the finest when you get Merry Mixer Greenules. Rich, green dehy alfalfa — June or January.

CONSOLIDATED BLENDERS, INC.

GENERAL OFFICES: FREMONT, NEBRASKA
BLENDING PLANTS: Fremont, Nebraska, *Phone Park 1-7000*
Nebraska City, Nebraska, *Phone 184* ■ Guntersville, Alabama, *Phone Justice 2-3156*